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Determinants of Cross-shopping Behaviour among Modern and Traditional Food Retail Stores in Indonesia:

An Empirical Analysis of Riau Province

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Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Human Ethics (For projects involving human participants/tissue, etc) The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007) – updated March 2014. The proposed research study received human research ethics approval from the Curtin University Human Research Ethics Committee (EC00262), Approval Number # SOM-30-11

Signature: .....

Date: 25/11/16

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I would like to take this opportunity to quote two *hadits* (the sayings of Prophet Muhammad PBUH-peace be upon him) on my research topic. These *hadits* have predicted the trade globalization 14,000 years ago: (1) *hadits* about the spread of trade. The Prophet PBUH said that (one day): "Money and trade will be so widespread, businesses will be so widespread, to the point where the woman will be helping her husband with the business" and (2) *hadits* about the proximity of the markets: The prophet PBUH said that one of the signs of the Day of Judgment is that markets would be close to each other. These predictions are evident today in terms of multinational corporations, e-commerce, women role in business and proliferation of large shopping malls everywhere which house hundreds of shops inside close to each other.

There are many other *hadits* and Qur'an verses (www.islam-guide.com) which have mentioned future events or facts which later came to pass, supporting the knowledge that these sources were derived from God. I believe human thinking and observation should make them closer to The Creator, so their knowledge will be beneficial for their life and their after-life. This belief is my personal inspiration to seek knowledge as a Muslim and a researcher.

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Abstract

The expansion of modern retailers into Indonesia has led to some concerns about possible adverse impacts on traditional retailers. This study was undertaken to gain insights into consumers' cross-shopping behaviour among modern and traditional food retailers, which is crucial to the survival of small-scale traders, and to draw suggestions for policy makers to make informed decisions on managing increased competition with the proliferation of new retail formats.

A sequential exploratory mixed-method design of qualitative and quantitative stages was selected for this study. The qualitative stage employed focus group discussions to explore consumers' cross-shopping behaviour and determinants in choosing a food retail store when purchasing general food, processed food (cooking oil), semi-processed food (fresh chicken meat) and fresh food (kangkong). In the quantitative stage, a structured questionnaire was administered in a face-to-face interview with respondents who were selected using a systematic shopping mall intercept method where enumerators were located in the exits of hypermarkets and traditional wet markets. A total of 826 usable questionnaires were elicited. Qualitative data were analysed with the help of QSR-NVivo 10 software, while quantitative data were analysed with SPSS version 21, using both descriptive and analytical analysis.

The findings show that the majority of consumers exhibit cross-shopping behaviour among different food stores, mainly between traditional wet markets and hypermarkets. The traditional wet markets and hypermarkets were associated with different strengths, so there was a product category complementarity wherein consumers separated their visits to wet markets (weekly for fresh food) and hypermarkets (monthly for dry food), confirming the theory of selective adoption. The identification of five constructs underlying consumers' cross-shopping indicated that the natural characteristics of each product category influence cross-shopping. Among the three clusters (traditional, modern and selective shoppers), the selective cluster was the largest group, and this cluster can compare between wet markets and hypermarkets and hence were more demanding and also more involved as they were heavy spenders. A comparison of determinants across the three product categories showed that the composition of most constructs varied depending on the specific characteristics of each product category (cooking oil, fresh chicken meat and kangkong). Consumers' preference for selective adoption confirms that at the current stage of supermarket development, modern retailers are becoming competitive in price for packaged food but are

perceived to be inferior in their fresh food quality, assortments and price. This study revealed that traditional retailers showed some resilience in terms of developing new retail formats, e.g., roadside chicken slaughters and temporary half-day vegetable markets. However, modern retailers also have an opportunity in providing fresh fruit, pre-packed mixed vegetables and pre-packed chicken and meat cuts provided they are able to gain consumers' trust for halal assurance. The findings of this study provide useful information for business and government. As the traditional and modern formats exhibit different strengths and weaknesses, it is likely that the first stage of modern retail diffusion in Riau Province and probably other areas outside Java will continue for quite some time. In the co-existence of traditional and modern retail food stores, government policy is crucial in supporting improvement of small-scale retailers and maintaining healthy competition between traditional and modern formats, to meet the needs of both more affluent consumers as well as consumers with lower incomes.

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GLOSSARY OF TERMS/ABBREVIATIONS

Buyer	:	A person who makes a purchase of food
Carrion chicken	:	Chicken which is dead prior to proper Islamic slaughtering, resulting in undrained blood as media for germs, bacteria and toxins
Consumer	:	A person who purchases food for own consumption
Cross-shopping	:	Consumers shopping regularly at each of two or more food retail stores (multiple store patronage)
FFV	:	Fresh fruit and vegetables
Halal	:	Lawful or permitted according to Islamic dietary standard based on the Islamic law *(sharia),* such as meat must be obtained from permitted animal which has been slaughtered by mentioning God's name
Hawker	:	Mobile vendor which sells daily cooking needs around housing complexes
Hypermarket (HM)	:	A modern retailer with total selling area of over 30,000 square feet, selling approximately 25,000 items and has expanded selection of non-food items at low prices, and typically between a third to two-thirds of the mix is food
IDR	:	Indonesian Rupiah
Independent grocer (IG)	:	Independent store on the roadside or within a traditional wet markets which mostly sells bulk and packaged dry staple food, also known as Chinese grocery store
Minimarket (MM)/convenience store	:	A modern retailer with total selling area of less than 3,000 square feet, selling fewer than 5,000 items, has limited lines of merchandise including staple groceries and snacks
Modern retailer	:	Self-service stores selling consumption goods (mainly food and household items)
MUI	:	Indonesian Muslim Scholar Committee *(Majelis Ulama Indonesia)*
Roadside kiosk (RK)	:	Stall/shack alongside the main roads which mostly sells fruit or fresh chicken meat
Selective adoption	:	The split of consumers' purchase at the early stage of modern retailer diffusion in which consumers shop for perishables in traditional wet markets and non-perishables such as dry goods from modern retail outlets
Supermarket (SM)	:	A modern retailer with total selling area of 5,000 - 30,000 square feet, selling approximately 15,000 items, offers full lines of groceries, meat and produce, frequently offers a deli and bakery and typically close to two-thirds of the mix is food
Temporary market (TM)	:	Temporary/half day market (morning or afternoon only) close to residential areas which mostly sells fresh vegetables, fruit and fish

Three-step model of modern retailer development	:	Theory that modern retailers will capture the market from traditional retailers for one food category at a time (processed food first, semi-processed food second and fresh food later).
Traditional retailer	:	Wet markets, small neighbourhood stores/provision stores, independent grocers, roadside kiosks and hawkers
Warungs	:	Small neighbourhood stores usually within a housing complex
Wet market/traditional market (WM)	:	Open-air or covered gathering areas where small retailers (often sole operators) sell fresh produce, meat, other basic food products such as grain, oil, spices, cooked food, clothes, toys, and other daily necessities

CHAPTER 1

INTRODUCTION

1.1 Research background

In the early to mid 1990s, major retailers in the developed countries began to expand into the emerging and developing countries. The expansion of these modern retailers was determined by both supply-side factors (push factors) and demand-side factors (pull factors). The push factors were: (1) market saturation characterised by high competition and low profitability; (2) domestic regulation which restricted their expansion in retail market share; and (3) limited opportunity for growth in domestic markets. The pull factors for this expansion included: (1) growing business opportunities; (2) increasing urbanization; (3) the opportunity cost of time; (4) population growth; (5) rising personal disposable income; (6) westernization of lifestyles; and (7) favourable legislative policy (retail FDI liberalization) (Joseph and Soundararajan 2009; Kaliappan *et al.* 2009; Evans *et al.* 2008; Natawidjaja, Reardon and Shetti 2007; Vorley, Fearne and Ray 2007).

The rate of spread of modern retailers in developing countries is of significant interest due to their multi-faceted impacts on farming, food businesses, other retailers, the trade in processed food products and consumer diets (Traill 2006). The growth of transnational supermarkets has affected processed food retailing in the developing countries in two ways; firstly, it provided an incentive for increased imports of highly processed foods through their centralized, high-volume distribution systems; and secondly, it provided incentives for consumers to try highly processed foods through greater advertising, more brands and more product variants (Hawkes 2010).

The expansion of modern retailers into the developing countries has led to a considerable amount of research activity. Topics have included competition among the modern retailers themselves (Amine and Lazzaoui 2011; Morschett, Swoboda and Foscht 2005; Reynolds, Ganesh and Luckett 2002), modern retail strategies to enter new markets (Hino 2014; Reardon 2011b; Goldman 2001) and their growth (Traill 2006), and consumer behaviour towards modern retailers (Hassan and Rahman 2012; Khare 2011; Chang and Luan 2010; Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta 2010; Sanlier and Karakus 2010).

Other topics have focused on the competition between modern retailers and traditional retailers. Here researchers have explored the impact of modern retailers on farmers (Rao and Qaim 2011), traditional traders (small independent shops and wet market traders) (Suryadarma *et al.* 2010) and consumers (Amine and Lazzaoui 2011; D'Haese, Van den Berg and Speelman 2008).

Research topics exploring the influence of modern retail diffusion on consumers in the developing countries have focused on the impact of modern retailers on consumer's diet/nutrition or consumer's food affordability/food access (Meng *et al.* 2014; Crush and Frayne 2011); and on determinants/attributes of consumers' food store choice between modern and traditional food retail stores (Terano *et al.* 2015; Chamhuri 2011; Bai, Wahl and McCluskey 2008; Trappey and Lai 1997) and consumer typology (Mehta, Sharma and Swami 2014; Ganesh, Reynolds and Luckett 2007).

Previous studies have shown that different stages of modern retailer development in developing countries were associated with different levels of competition between modern and traditional retailers. According to Reardon and Timmer (2007), as modern retailers expand and gain market share, the price differences between those two types of retailers are narrowing and have even equalised for some main products, causing the wet markets' share in the Asia- Pacific region to erode. According to Mukherjee (2011), this is an equity issue as the traditional unorganized retailers had to compete with strong modern retailers which have entered the market with better technology.

With regards to the impact of modern retailer diffusion in developing countries, specifically in Asia, there are two different schools of thought (Gorton, Sauer and Supatpongkul 2011). The first school suggests that modern retailers have been able to combine both superior quality and low price, and thus capture the majority of consumers ("the big middle") (Reardon, Henson and Berdegué 2007; Reardon and Hopkins 2006). The second school of thought suggests that modern retailers continue to have a niche market position, due to the persistent competitive advantage of traditional food retailers for consumers (Goldman, Ramaswami and Krider 2002; Goldman, Krider and Ramaswami 1999).

The present study aims to contribute to this debate by gaining more insights on consumer behaviour toward the co-existence of modern and traditional food retailers, specifically on consumers' cross-shopping behaviour between modern and traditional food retail stores.

Previous research has suggested that food and grocery buyers typically exhibit cross-shopping behaviour (Prasad and Aryasri, 2011). Riecken and Yavas (1988, cited in Ganesh, Reynolds and Luckett 2007) defined cross-shopping as 'the behaviour of shoppers who change their retail patronage patterns and turn to other retail formats to fulfil shopping needs which have traditionally been met by a preferred and well-patronised retail format'. However, recent research suggests that the proliferation of different retail formats has encouraged consumers to use both formats regularly instead of totally switching from the traditional to the modern format. Skallerud, Korneliussen and Olsen (2009) and Carpenter and Moore (2006) suggested that consumers use two or more food retail stores to satisfy different needs. This may lead to the development of complex patronage behaviour referred to as cross-shopping. Supporting this view, Gijsbrechts, Campo and Nisol (2008) concluded that multiple-store shopping is driven not only by cherry picking behaviour (where consumers switch stores to benefit from temporary promotional offers), but may also result from long term planning based on stable store attributes.

Even though cross-shopping is common behaviour among food and grocery buyers, it has received little attention until recently (Maruyama and Wu 2014a). An examination of studies of cross-shopping behaviour indicate that in the context of food purchase, cross-shopping in general and cross-shopping between different store formats remains largely unexplored (Skallerud, Korneliussen and Olsen 2009). Furthermore, empirical work that examines the cross-shopping phenomenon within the grocery context is limited (Carpenter and Moore 2006; Leszczyc and Timmermans 1997 cited in Skallerud, Korneliussen and Olsen 2009). A summary of the consumer cross-shopping behaviour literature shows the sporadic nature of the empirical findings and the lack of unequivocal findings. Neither socio-demographics nor retailers' marketing activities have provided a compelling explanation of cross-shopping behaviour (Skallerud, Korneliussen and Olsen 2009).

Related to cross-shopping behaviour, previous research has shown that in the initial stage of supermarket penetration, consumers shop for perishables in traditional wet markets and non-perishables such as dry goods from modern retail outlets (Vorley, Fearne and Ray 2007; Goldman and Hino 2005; Farhangmehr, Marques and Silva 2001; Veeck and Veeck 2000). This split of purchasing is known as selective adoption and is a common phenomenon in developing countries (Goldman, Ramaswami and Krider 2002), including Indonesia. The Centre for Policy and Implementation Studies (1994) (cited in Suryadarma *et al.* 2010) found that Indonesian consumers in Java purchased most of their fresh food in wet markets, and processed food products from modern retailers.

Based on a three-step model of supermarket diffusion in the developing countries (Tessier 2010; Goldman, Ramaswami and Krider 2002), supermarkets first appeal to upper-income consumers, then to the middle class and finally to the urban poor. Supermarkets are competitive in processed foods (dry and packaged items such as vegetable oils), then semi-processed foods (dairy, chicken, beef and fruit), and finally into fresh produce (Reardon, Henson and Gulati 2010). While modern food retail formats have established themselves across Asia, the growth of different formats varies significantly among Asian countries (Coca Cola Retailing Research Council Asia 2007). There is much variation in the fresh food share of supermarkets among Latin America, Africa and Asia, within individual countries, and between urban and rural areas (Reardon *et al.* 2003). Research in Indonesia may provide insights into similar conditions in other Asian countries at earlier stages of economic development (Romling and Qaim 2011) and thereby offer insights into consumer behaviour in other Asian countries.

Supermarket diffusion in Indonesia has been illustrated by three distinct periods. In 1970, the supermarket sector was a niche which served expatriates and upper-class Indonesians mainly in Jakarta. The diffusion became rapid in 1983 and peaked in the early 1990s, but after the financial crisis in 1997, the rate of expansion declined. After the liberalization of retail Foreign Direct Investment (FDI) in 1998, supermarket growth accelerated and the "take-off period" started (Mutebi 2007; Natawidjaja, Reardon and Shetti 2007).

In other countries such as India (Mehta, Sharma and Swami 2014), recent research has shown that hypermarkets have been the most successful format amongst modern retailers. Similarly, in China, hypermarket is the most successful among the retail formats, which is due to its ability to provide great range of products at competitive prices (Zhang and Wei 2015). Coca Cola Retailing Research Council Asia (2007) reported that in some Asian markets, hypermarkets have become the most significant format. Hypermarkets are modern retail formats that sell an expanded selection of about 25,000 products, food and non-food, with a total selling area over 30,000 square feet (Coca Cola Retailing Research Council Asia 2007).

In Indonesia, regulations exist to deal with the rapid diffusion of modern (mostly foreign) retailers, but with little impact. As noted by Mutebi (2007), Indonesia has reacted less forcefully towards large-format retail development compared to Malaysia and Thailand. Reardon (2011a) believed that after the liberalization of foreign direct investment in the retail sector, regulations to slow the growth of modern retailers in Indonesia have been

largely ineffective, partially implemented and side-stepped such as by diversification of the retail format.

Under these conditions, the best defence for traditional wet markets is consumer preference. As modern retailers improve the quality (freshness and assortments) of their produce, consumers will eventually switch to modern retail outlets for most of their fresh produce. Farhangmehr, Marques and Silva (2001) confirm that hypermarkets offer more advantages than traditional retail outlets with regard to prices, promotions, assortment, novelty and their hours of operation. Their study showed that consumers preferred hypermarkets even though they shopped in several establishments. Goldman and Hino (2005) concluded that further improvements by modern retailers in procuring and handling perishable items is likely to yield significant improvements in market share.

Where government regulation to control the growth of modern retailers is generally ineffective as suggested by Reardon (2011a), the main concern in Indonesia is that the growth of modern retailers will put pressure on traditional retailers (such as wet markets and small neighbourhood stores). According to Suryadarma *et al.* (2010), many modern retailers in Indonesia are located in close proximity to traditional markets which might compete directly with small scale vendors. The concern on traditional market decline is related to its function as a source of income for a huge number of small-scale traders, as Indonesia has 13,450 traditional markets with 12.6 million small traders (SMERU Research Institute 2007).

Another concern is that modern retailers have triggered a shift away from local foods towards international (global) food, which has diminished the role of the traditional wet markets (Suryana, Ariani and Lokollo 2008). According to Jayasankaraprasad and Kathyayani (2014), understanding complex patronage behaviour is critical for survival of food retailers in developing countries due to the growing heterogeneity of demand and proliferation of new retail formats. Further justify this current study, very few of previous studies explored how supermarket diffusion influence consumers' store choice in developing countries (Meng *et al.* 2014) and the availability of consumer surveys regarding food consumption is limited in many developing countries (Kearney 2010, cited in Meng *et al.* 2014).

As modern retailers move from processed, to semi-processed and ultimately to fresh foods, this study focuses on the determinants of consumers' cross-shopping behaviour between modern retailers (hypermarkets) and traditional wet markets for three product categories

(cooking oil, fresh chicken meat and kangkong). The growing concern on the decline of market share of traditional retailers justifies the need to study cross-shopping behaviour to reflect the level of diffusion achieved by modern retailers across processed, semi-processed and fresh food in Indonesia.

Therefore, to gain insights whether consumers' cross-shopping behaviour vary across different product categories based on the steps of modern retailer diffusion, cooking oil was selected in this study to represent the processed/dry food category, chicken for the semi-processed category and kangkong for the fresh vegetable category.

Due to trade liberalization, the price of certain products (cooking oils, meat and highly processed food) is decreasing and their availability is increasing. This has caused the consumption of palm oil to increase relative to other oils (Hawkes 2010). Therefore, cooking oil was selected to represent the processed/dry food category which is usually captured first by the modern retailers.

In the meat category, the consumption of chicken is increasing relative to beef (Hawkes 2010). To represent the semi-processed food category, fresh meat was selected due to the halal requirement. In Indonesia, the vast majority of consumers are Muslim who follow a set of dietary prescriptions (Hassan and Hall 2003; Regenstein *et al.*, 2003 (cited in Bonne *et al.* 2007)). Chicken was selected among the meat types due to it being the most consumed meat (84%) in Indonesia (KPPU 2010; The Poultry Site 2010).

A large body of evidence suggests that modern retailers in Asia often experience problems in handling the fresh food category (mostly fresh vegetables). Traditional wet markets continue to display strength in this category (Goldman, Krider and Ramaswami 1999). For this study, kangkong (*Ipomoea aquatica*) was selected as it is one of the most popular green leafy vegetables in Indonesia. According to Arsil (2013), kangkong is one of five food products referred by consumers as local foods, together with rice, corn, cassava and spinach.

Prior research on retail trends in Indonesia has been largely conducted in Java and focused on the impacts of modern retail stores on farmers and traditional wet market traders (Suryadarma *et al.* 2010; Natawidjaja, Reardon and Shetti 2007; Chowdhury, Gulati and Gumbira-Sa-id 2004). This study provides an alternative approach to the topic, exploring the consumers' perspective of the co-existence of traditional wet markets and modern food retailers (hypermarket and supermarket).

Traill (2006) identified that the market share of supermarkets in developing countries increases with income, urbanization and the greater participation of women in the work force. Riau was selected for this study as it is one of the new economic hubs in Sumatra and one of the richest provinces in Indonesia. It is also the most urbanized province in Sumatra. Based on the projection of urbanization (percentage of urban population) for 2015 (BAPPENAS, BPS and United Nations Population Fund 2005), Riau Province will have the highest level of urbanization (50%) in Sumatra, but it will remain much less urbanized than most other provinces such as West Java (60%), Bali (60%) or Jakarta (100%).

In terms of economic growth, which is related to the income of consumers, modern food retailers are looking to expand their business beyond the metropolitan area and Java, and they direct attention towards fast-growing cities. Pekanbaru is among the top ten fastest-growing cities in Indonesia and the highest in Sumatra (Deloitte 2015). According to the Coordinating Ministry for Economic Affairs Republic of Indonesia and Ministry of National Development Planning/National Development Planning Agency (2011), Riau has a relatively higher GRDP (Gross Regional Domestic Product) per capita than other provinces as it is driven by its oil and gas industry.

With the recent rise in hypermarkets, Pekanbaru City represents an urban area where the traditional wet markets compete directly with large-scale modern retailers. Lotte Mart (previously Makro) opened in 2004, Hypermart in 2005 and Giant hypermarket in 2009. Carrefour has been negotiating its entrance to Pekanbaru since 2009.

1.2 Research objectives

This study will explore the patterns of retail store patronage for food shopping in Riau Province, Indonesia. The aim of the study is to explore the determinants of cross-shopping behaviour. More specifically, this study aims to:

(1) describe consumer cross-shopping habits between traditional and modern food retail stores
(2) examine the determinants of cross-shopping behaviour among traditional and modern food retail stores
(3) examine whether there is a difference in the determinants of cross-shopping behaviour between major food product categories (dry foods, fresh produce and fresh chicken meat) and whether the determinants of retail shopping behaviour are consistent across food product categories (dry foods, fresh produce and fresh chicken meat).

1.3 Significance of the study

The expected outcome will be to identify the main factors influencing cross-shopping behaviour for food products. This will provide an insight into consumers' share-of-wallet among modern and traditional retailers. Better understanding cross-shopping patronage is of particular importance to traditional wet markets which have experienced a significant decline in market share; these markets are the source of income of millions of small-scale vendors. In Indonesia, most hypermarkets are located strategically in heavily populated urban areas, attracting customers and competing directly with traditional retail outlets.

Other than the wet market vendors, the outcome will also be beneficial for other food retailers. Insights into cross-shopping behaviour from this study are expected to benefit both modern and traditional retailers. For example, this study provides useful information including what determinants are consumers looking for when they visit hypermarkets/supermarkets and traditional retailers; and what are their weaknesses based on consumer perception. Knowledge such as these could help in developing relevant strategies which will be useful to government agencies.

According to Ali, Kapoor and Moorthy (2010), the analysis of purchasing patterns of consumers shopping at wet markets and modern food retailers will help in identifying a set of preferences for product and market related factors which could then assist the retailers in making better decisions. Therefore, cross-shopping behaviour needs special attention due to the following: (1) cross-shopping provides an indication of the stage of modern retailer diffusion and level of competition between modern and traditional retailers and (2) by understanding consumers' determinants of cross-shopping behaviour, both traditional and modern food retailers will better understand their respective strengths and weaknesses in providing consumers with superior value such as in terms of product and store attributes.

For the Indonesian authorities, this study will provide suggestions for policy with regard to the escalating competition between small-scale vendors and modern retailers. Insights into why consumers purchase different product categories from traditional and/or modern food retailers will assist in delivering policy to suit diverse consumers' needs.

The phenomenon of cross-shopping behaviour indicates that the majority of consumers utilize different food retailers for different needs. Furthermore, Indonesia is part of Asia, but it is also the largest Muslim majority country where most consumers follow the prescribed religious food requirements. This study will attempt to better understand the factors which

most influence consumers' cross-shopping behaviour between traditional and modern food retail stores. The findings from this study, which involve consumer purchasing behaviour in a non-Western setting, will add to the extant literature.

1.4 Theoretical framework

The conceptual framework for this study (Figure 1.1) views the co-existence of traditional and modern food retailers based on the three-step model of supermarket diffusion (Tessier 2010; Goldman, Ramaswami and Krider 2002) and the big middle theory (Levy *et al.* 2005). The three step model demonstrates that modern retailers will capture the market from traditional retailers for one food category at a time (processed food first and fresh food later). Then, according to the big middle theory, due to the success in implementing price and quality appeals, large scale modern retailers (big middle retailers) will be able to induce the bulk of consumers to gravitate to them.

Within the context of this co-existence of traditional and modern retailers, consumers' food retail store choice will be influenced by various determinants which include geographic, culture, consumers' ability and preference (socio-demographic factors and psychographic factors), and behavioural/situational factors. Other sets of determinants observed in the literature refer to the outputs of food retail stores for consumers, which include product attributes and store attributes. These determinants will influence consumers' acceptance of a food retail store and thus affect the store's process of diffusion.

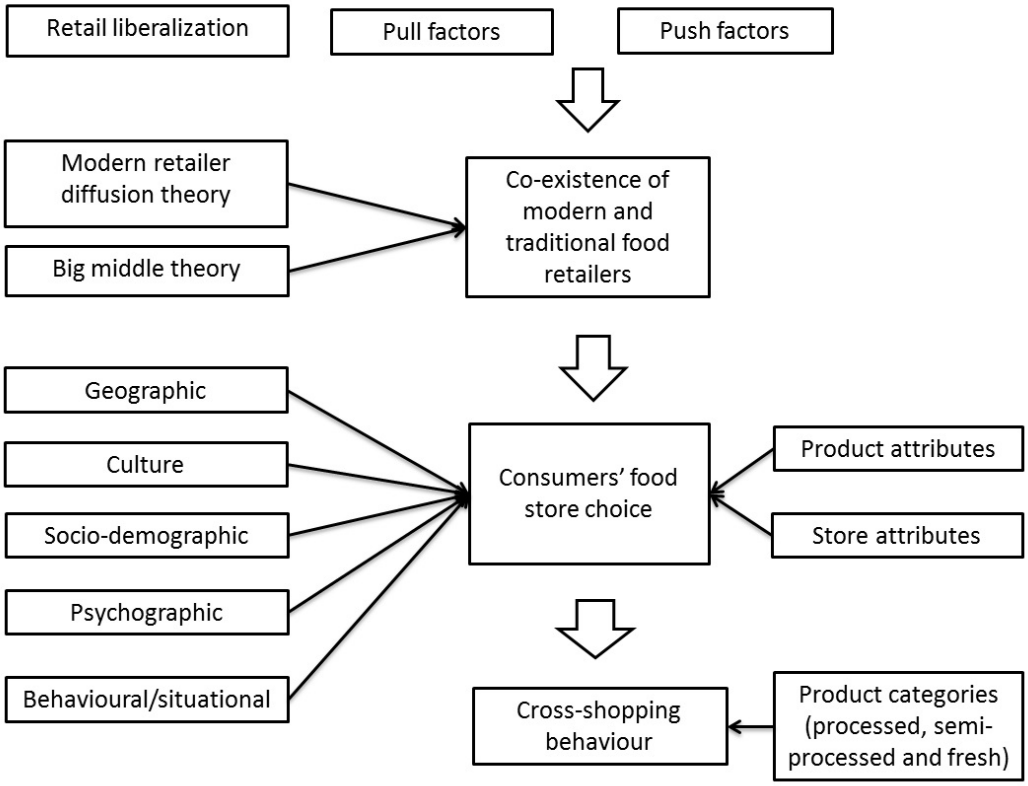


Figure 1.1: Theoretical framework

Other than these determinants, consumers might make store patronage decisions according to the food product category. Food product categories (processed, semi-processed and fresh) are central to the framework and will influence store choice as observed in consumers' cross-shopping behaviour between traditional and modern food retail stores. Previous studies such as Brookes (1995) have observed the importance of fresh food for consumers in deciding where to buy food and groceries. Freshness is a highly valued attribute in the fresh food category and is often identified as the strength of traditional wet markets and small retail stores. According to Kelly *et al.* (2015), another strength of traditional markets is the availability of local and specialty or cultural foods. In a Muslim majority country such as Indonesia, Muslim consumers might be more vigilant when purchasing fresh meat and processed meat products due to the halal requirements (Alqudsi 2014).

Onwezen *et al.* (2012) identified that consumers valued benefits differently across product categories. Therefore, the importance that consumers attach to certain benefits will influence their perceptions towards specific food. According to Skallerud, Korneliussen and Olsen (2009), cross-shopping behaviour should be studied and compared at the category level to identify the consistency of the predictor variables. If cross-shopping behaviour is not found

within the most narrowly defined level of product hierarchy - the product category - it is unlikely to be found across product categories.

Skallerud, Korneliussen and Olsen (2009) observed that previous studies on store patronage have assessed specific product categories such as spaghetti and cake mix. According to Yousaf and Huaibin (2013), the literature on consumer characteristics in decision making also suggests that consumer shopping behaviour must be studied at the product level as it has been well established that consumers exhibit different decision making behaviour when shopping for different product categories. By comparing consumers' food store choice for the three product categories (processed, semi-processed and fresh foods), this framework will be used to identify whether the determinants of retail shopping behaviour are consistent across product categories.

1.5 Approach of the study

As food and grocery consumers' cross-shopping behaviour has been given limited attention in the past, information was not readily available and thus an initial exploratory research stage was necessary (Jayasankaraprasad and Kathyayani 2014). An exploratory approach was justified on the basis that the extant findings on store choice are tied to specific contexts and in many cases cannot explain general store choice behaviour, particularly in the food market (Carpenter and Moore 2006).

To achieve the research aims, this study adopted a two stage sequential exploratory strategy that required a qualitative stage (focus group discussions) and a quantitative stage (face-to-face consumer survey). This approach is used when there is a need to develop and implement a quantitative instrument based on qualitative findings (Creswell and Plano Clark 2007).

In Stage 1 (exploratory stage), focus group discussions were conducted to obtain perceptions on: (1) food shopping habits; (2) cross-shopping behaviour among modern and traditional retailers; and (3) identify the determinants in choosing between the types of retail store. The focus group results were then used to develop the survey instrument for the next stage.

In Stage 2 (consumer survey), pre-tested structured questionnaires were administered in a face-to-face interview with potential respondents. The population was the total number of households in Riau. Respondents were selected using a random shopping mall intercept method (Prasad and Aryasri 2011; Domínguez 2007; Ou, Abratt and Dion 2006; Reynolds,

Ganesh and Luckett 2002), where enumerators were located in the exit areas of hypermarkets and traditional wet markets. The shopping mall intercept was chosen because of its ability to access potential respondents within a short period of time and its common use in marketing research (Grace and O'Cass 2005). Selected respondents had to be responsible for making food shopping decisions and to do a large proportion of the actual food shopping (Domínguez 2007).

1.6 Structure of the thesis

This thesis is structured in ten chapters as follows:

The current chapter outlines the background of the research, the significance of the research and research objectives.

Chapter 2 provides an overview of the Indonesian food retail industry.

Chapter 3 reviews consumer cross-shopping behaviour in relation to food shopping and the factors/determinants influencing consumers' retail food store choice.

Chapter 4 (Research approach) describes the research paradigm and research methodology for the first (qualitative) phase (focus group discussions).

Chapter 5 presents the preliminary (qualitative) research findings collected from four focus group interviews. This chapter focuses on purchase behaviours (preferred food retail outlets, frequency and quantity of purchase) for three food products (cooking oil, kangkong and chicken). It will then discuss and compare the themes that emerged.

Chapter 6 describes the main (second) quantitative phase: the development of the survey instrument and how the questionnaires were administered using face-to-face interviews.

Chapter 7 describes the socio-demographic characteristics of the survey respondents. This chapter also describes respondents' cross-shopping habits between traditional and modern food retail stores to address the first research objective. It describes consumers' shopping habits for food in general as well as individual shopping habits for each of the three product categories (cooking oil, kangkong and chicken). Preferred outlets, frequency and quantity of purchase, the types of products purchased, the price of products paid and reasons to purchase will be discussed.

Chapter 8 describes consumers' cross-shopping behaviour for traditional wet markets and modern retail stores for food in general to address the second research objective. Factor analysis is undertaken to identify any underlying latent constructs that may explain cross shopping behaviour for food in general. Cluster analysis of store-related attributes is then performed to identify the presence of any meaningful market segments.

Chapter 9 compares the determinants for the three product categories under study (cooking oil, kangkong and chicken) to address the third research objective. It compares the results of the factor analysis for cooking oil, chicken and kangkong.

Chapter 10 draws together the key findings, draws conclusions and implications, and outlines contributions and limitations of the study. The avenues for further research are also discussed in this final chapter.

CHAPTER 2

AN OVERVIEW OF THE INDONESIAN

FOOD RETAIL INDUSTRY

2.1 Introduction

This chapter begins with a description of the food retail industry in Asia (Section 2.2), followed by an in-depth profile of food retail in Indonesia (Section 2.3). Having established the context, the chapter then explores the distribution system for the three product categories which are the primary focus of this study: cooking oil, fresh vegetable and fresh chicken meat (Section 2.4). The following section (Section 2.5) discusses the changes occurring in food consumption patterns in Indonesia and how these changes will influence food expenditure and consumer choice. Consumer shopping habits are described in Section 2.6, and traditional and modern retailers profiled in Section 2.8 and Section 2.9. The chapter concludes with a summary that positions this study within the Indonesian food retail industry.

2.2 Food retailing in Asia

The Asia-Pacific region is inhabited by more than half of the world's population and in the last 20 years has been the world's fastest-growing economic region. The economic growth in Asia and the Pacific is expected to remain strong at 5.3 percent in 2017, accounting for almost two-thirds of global growth (IMF 2016).

Over the last 15 years, foreign investment in the Asia-Pacific retail food sector has been facilitated by the market deregulation and policy reforms that have been implemented in many of the region's less developed economies. In the developing economies of the Asia-Pacific region, the retail food sector is being transformed by the spread of modern self-service food stores: supermarkets, hypermarkets, discount stores, and convenience stores (Mutebi 2007; Coyle 2006).

According to Tandon, Woolverton and Landes (2011), the growth of modern food and grocery retailers (hypermarkets, supermarkets and convenience stores) has had a significant

influence on the food retail environment in the Asia-Pacific region. PriceWaterhouseCoopers (2013) have suggested that, in Asia, large populations and growing personal disposable incomes meant that the region will continue to be the world's largest food market, worth USD 4.24 trillion in 2012 and set to grow to USD 6.92 trillion by 2016.

In Southeast Asia, the food market has been characterized by a large number of traditional markets and small family-operated neighbourhood stores (Mutebi 2007; Arnold, Oum and Tigert 1983). However, after the rise of modern retail formats during the region's economic boom in the 1980s and 1990s, the co-existence of modern and traditional retailers is a common phenomenon (Coca Cola Retailing Research Council Asia 2007; Mutebi 2007; Lim, Badarulzaman and Ahmad 2003).

Retailers operating concurrently in large cities in Southeast Asia can be classified into four major categories. These categories are as follows:

(1) the informal sector including hawkers, peddlers, and those who procure their daily provisions from morning markets, wholesale and enclosed markets
(2) small-scale shops along main roads, usually double- or three-storey pre-war establishments
(3) large-scale department stores and supermarkets
(4) regional shopping centres with several stores under one roof, with facilities for leisure and social activity (Lim, Badarulzaman and Ahmad 2003).

In terms of the balance of modern and traditional retail formats in Southeast Asia, the proportion of modern retailers ranges from 4% of total grocery sales in Vietnam to 71% in Singapore, and in general, accounts for over half of grocery sales in most markets (Coe and Bok 2014). However, according to Coca Cola Retailing Research Council Asia (2007), the rate of growth in packaged food retail sales among modern food retailers in Asia has been growing far more rapidly. In 2005, these packaged foods accounted for about half of the sales in fast-moving consumer goods (FMCG) in Asia.

The rapid expansion of modern food and grocery retailers has put pressure on traditional retailers (Wrigley and Lowe 2010). Trappey and Lai (1997) demonstrated that in the early 1990s, the market share of traditional markets in Taiwan fell from 90% to 70% due to the development of warehouse stores and hypermarkets. Similarly, Paromita and Mridula (2009) identified that traditional retail stores in India accounted for over 95% of total sales, but in several areas, smaller traditional shops were no longer able to compete with large retailers in variety and scale and had started to lose market share. According to Gregory

(2008) (cited in Paromita and Mridula 2009), modern grocery sales in many Asian countries exhibited high growth rates between 2003-2007. These countries included China (105%), Turkey (56%), Vietnam (59%), India (49%) and Indonesia (70%).

2.3 Indonesian food retailing

The Association of Indonesian Retailers (Aprindo) (cited in Dewi 2014) has estimated the value of modern retail sales at IDR 162.8 trillion (USD 13.4 billion) in 2014, and has estimated its growth at 10% per annum. Demand for fast-moving consumer goods, in particular food and beverages, is at more than 60%, constituting the main driver and contributor to retail demand (Aprindo cited in Dewi 2014) . Business Monitor International (BMI) cited in Meat & Livestock Australia (2014) expects Indonesian food consumption to grow at 9.4% in 2015, with annual average growth between 2014 and 2019 to reach 9.8% per annum. The expanding modern retail sector is expected to contribute to higher food consumption, with growth predicted to reach 14% year-on-year in 2015, with annual average growth of 13.6% to 2019 (Meat & Livestock Australia 2014). According to ATKearney (2014), the modern retail share of grocery sales is expected to grow from 32% in 2013 to 43% by 2018.

The retail industry in Indonesia is highly fragmented. Traditional retailers (wet markets, roadside stalls and independent grocers) remain the dominant retail outlet among low income consumers (KPMG 2006). With a population of 229 million, Indonesia has a large consumer base, with an estimated 15% (approximately 35 million people) in the emerging upper- and middle income groups (Rangkuti and Slette 2010; Kamath and Godin 2001).

The upper- and middle class consumers in Indonesia represent a market larger in size than Australia, New Zealand and Singapore combined (Australian Trade Commission 2010). According to Rastogi *et al.* (2013), assisted by rapid economic growth, Indonesia's middle-class and affluent consumer (MAC) population will continue to increase. There are currently approximately 74 million MACs in Indonesia, and this number is expected to double by 2020, to roughly 141 million people. Growth in the MAC population is occurring throughout the country in both cities and regional areas.

The growing preference for purchasing from supermarkets and hypermarkets among the middle to upper segment has increased the demand for imported goods, particularly for meat, dairy and convenience foods. In 2009, the import value of processed food products, fruit and

basic material foods into Indonesia was estimated to exceed USD 5 billion (Australian Trade Commission 2010).

The Socio Economic Survey (2002) showed that the average per capita monthly expenditure in urban areas was Indonesian Rupiah (IDR) 273,000, while in rural areas it was around half of that figure (IDR 153,000). On average, the per capita monthly expenditure in Indonesia was IDR 206,000, with 58% of that expenditure allocated to food (PriceWaterhouseCoopers 2004). A typical break down of the expenditure on food was the following: processed food and beverages (11.4%), cereals (9.6%), fruit and vegetables (6.3%), fish (4.0%), milk and eggs (3.0%) and other goods such as meat, legumes, fats and oils (15.8%) (Rangkuti and Slette 2010). In 2010, with the rising per capita income, the proportion of spending on food and beverages dropped by approximately 20% (HKTDC 2011).

Urban areas remain as the primary focus for retail activity, Not only do they accommodate 48% of the population, but without being involved in the production of food, urban consumers are obliged to purchase what they consume. However, competition among retailers has been intense, fuelled by the increasing number of retail outlets (EIU 2011). Smith and Dawson (2004) suggested that the modern retail market in Indonesian urban areas will become more competitive as large-scale retailers compete for market share. In this situation, the traditional retail stores might fail to compete and be displaced by more efficient modern retail stores.

The island of Java, which is home to approximately 60% of Indonesia's 225 million people, is the most important retail region in the country (EIU 2011; KPMG 2006). Furthermore, most of Indonesia's wealthy people are agglomerated in the densely-inhabited capital city of Jakarta, where the GDP per head is over three times the national figure (EIU Indonesia Retail Report (2005) (cited in KPMG 2006). With the continuing growth of the Indonesian economy, modern retailers are expected to spread to other large cities in Java, Sumatra and Sulawesi. Even with projected growth of 15 to 25% per annum, there is still plenty of room to grow, since the ratio of modern retail space to the population suggests the capacity is still far from congested (Natawidjaja 2005).

2.4 Food product distribution

Before the development of modern supermarkets, food products in Indonesia were distributed through local traditional markets (*pasar*) or from neighbourhood mobile vendors. As the availability of packaged food increased, 'mom-and-pop' food outlets grew in the

cities and towns (Kamath and Godin 2001). Traditionally, packaged consumer goods have been distributed through small stores such as roadside shacks (*warung*) or purpose-built stores. Manufacturers reach these traditional outlets in two ways: (1) through a chain of distributors: national distributors, provincial distributors, local distributors and local wholesalers; or (2) through canvassing by a distribution company. Canvassing firms typically have a fleet of small trucks, with a salesperson who regularly travels from the manufacturer's or distributor's warehouse to visit many *warungs* along the way (Pecotich and Shultz 1998).

With more than 14,000 islands comprising the Republic of Indonesia, the distribution system is complex. There are significant obstacles in terms of infrastructure across the country, especially outside Java Island and the big cities. These constraints include poor roads and inadequate port facilities and unreliable shipping schedules (Rangkuti and Slette 2010; Smith and Dawson 2004). Synovate (2009, cited in Agriculture and Agri-food Canada 2011) notes that the distribution of consumer products within the Indonesian archipelago is slow. Even so, new food products will continue to be sold through small stores and traditional wet markets, for these remain as the dominant food retail stores.

The Indonesian distribution system was previously designed to distribute small quantities of non-refrigerated foods to mobile vendors and traditional markets (Gray 1996). The ability of this system to distribute frozen and refrigerated products is limited (Rangkuti and Slette 2010). For packaged consumer goods, two islands, Java and Sumatra, account for 80% of the market (Smith and Dawson 2004). There are several national distributors, and these are generally subsidiaries of consumer goods and food manufacturers. At a local level, there are numerous agents, hundreds of wholesalers and millions of retailers (Rangkuti and Slette 2010).

Table 2.1 shows the breakdown of FMCG (Fast Moving Consumer Goods) distribution by retail/trade channel in Indonesia, which shows that modern retailers hold 25% of share for FMCG. According to Dyck, Woolverton and Rangkuti (2012), from 1998-2010, hypermarkets/supermarkets hold an increasing share of packaged foods (20 to 30%) while the share of independent small grocers decreased from 65% to 55%.

Table 2.1: FMCG (Fast Moving Consumer Goods) ditribution across retail/trade channel in Indonesia

Number/type of retailers	Number	% Business contribution
Total outlets	2,000,000	100
Outlets/capita	107	
Modern trade		
Hyper/supermarket	500	25
Minimarket	2,500	
Traditional trade		
Wholesalers and national distributors	2,000	15-40*
Others (sub-distributors, sub-wholesalers, P&D, wet markets)	1,995,000	60-75*

*Depending on product type
Source: PT Davids Distribusi Indonesia (2003) (cited in Smith and Dawson 2004)

Based on the product categories captured by modern retailers (processed, semi-processed and fresh food), this study selected cooking oil to represent the processed/packaged food category. Palm oil is one of the key strategic commodities in Indonesia because it is one of the nine staple requirements *(Sembako-Sembilan Bahan Pokok)* for Indonesian consumers. According to KPPU (2011), the high demand for cooking oil is expected to continue to increase with the increase in population and the further development of the processed food industry

Riau Province is a centre of oil palm plantations in Indonesia. Even so, the price of cooking oil in Riau remains high. The reason for this is that most of the Crude Palm Oil (CPO) produced in Riau is sold overseas. This situation results in a high price for cooking oil in Riau, because the supply of CPO (as the main input in the processing of cooking oils) is limited and the prices are relatively high. The structure of the palm cooking oil industry in Riau Province is oligopolistic, with only four large scale cooking oil producers (KPPU 2011).

At the national level, Indofood, a leading cooking oil company (Indofood Agri Resources Ltd. 2007), manufactures three types of palm oil-based cooking oils: (1) branded consumer packs; (2) branded semi-consumer packs; and (3) an unbranded industrial type. Branded

consumer pack cooking oils are sold through retail stores in containers of up to five litres. Branded semi-consumer packs of cooking oil are sold to wholesalers in containers of 15 to 18 kg for resale. Unbranded industrial type cooking oil is sold mainly to industrial users. All cooking oil products are sold under brand names except the industrial packages. The company's brands include *Bimoli*, *Bimoli Spesial*, *Delima*, *Happy Salad Oil* and *Mahakam*.

Other than packaged cooking oil, there is bulk cooking oil. Both types of cooking oil are manufactured using different quality CPO. Packaged cooking oil is produced from CP8, which has a lower water content, resulting in a longer shelf-life as it does not "freeze" quickly when stored at low temperature. Bulk cooking oil is produced from CP10 (KPPU 2011). The national market share of bulk cooking oil is 80% (1,793,400 kg), while the figure for packaged (branded) cooking oil is only 20% (448,354 kg) (Depperindag 2000, cited in Sastri 2008).

According to Martianto (2014), from the producer, cooking oil is typically sold to distributor, sub-distributor and retailer and then to end consumers. The typical distribution network for cooking oil is presented in Figure 2.1.

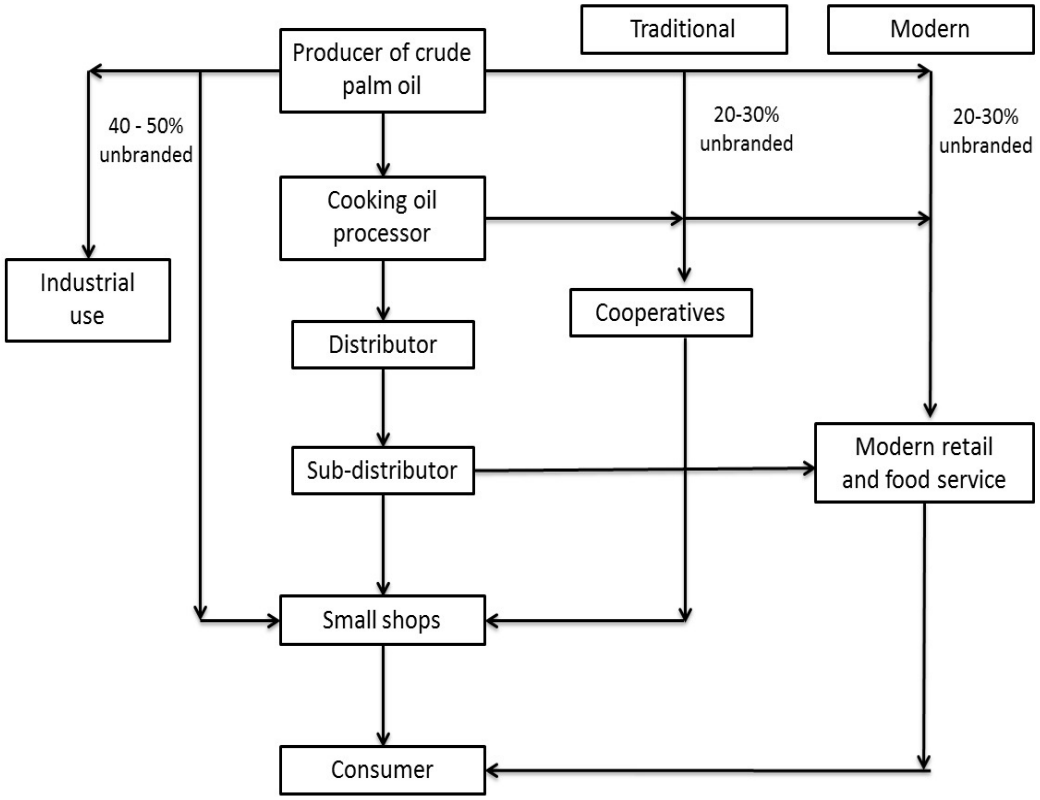


Figure 2.1: Distribution for cooking oil in Indonesia (Smith and Dawson 2004)

For fresh produce, farmers can choose to either sell directly to local (rural) markets or to traders and collector agents who sell the produce to urban areas. In every city, there is a *pasar induk* (main market) where wholesalers bring their produce to sell to either lower-level distributors or directly to end consumers (Pecotich and Shultz 1998). In the traditional distribution chain, farmers sell vegetables through vendors, wholesalers, wet markets, small retailers and then to end consumers (Chowdhury, Gulati and Gumbira-Sa-id 2004).

Most smallholder farmers in Indonesia market their produce through local collector agents. According to Natawidjaja (2005), the farm collector agents mostly sell directly to the wet markets (60%) or agri product supplier companies (25%) and hypermarkets/supermarkets (5%). The suppliers sell mostly to hypermarkets and supermarkets (80%), and the rest (around 15%) are re-sold to the wet markets due to inconsistent product quality. According to Suryadarma *et al.* (2010), the wet markets sell to small stores (*warungs*) (44%), households (34%), restaurants (14%), mobile vendors (8%) and others (3%) (Figure 2.2).

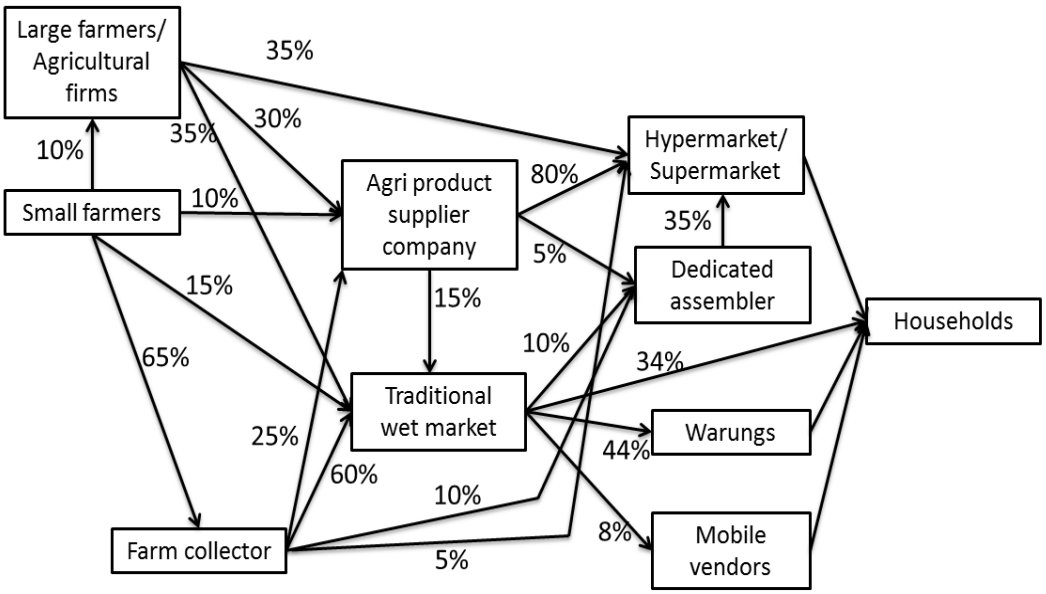


Figure 2.2: Distribution channels for fresh produce
(Adapted from Natawidjaja 2005 and Suryadarma et al. 2010)

For fresh fruit, the distribution system is somewhat different. Some of the fruit goes through similar distribution system as fresh vegetables, while others go to certain vendors who sell fruits in roadside kiosks. These vendors are mostly clustered based on the variety of fruit they offer, such as a row of kiosks specializing in selling bananas while other rows sell rows sell different fruits. As there are many varieties of fruit available in Indonesia, this level of specialization is possible (Pecotich and Shultz 1998).

Demand for both local and imported fruit is growing significantly. Imported fruit is distributed through modern retailers and traditional retailers such as small shops at petrol stations and stalls in traditional wet markets. Common imported fruits found in the traditional sector include apples, mandarins, oranges, table grapes and pears (Rangkuti and Slette 2010).

With regard to red meat (fresh, chilled and frozen), producers in Indonesia are unable to meet the demand. Some 93,000 tonnes of meat are sourced from Australia (54%) and New Zealand (41%). Australian boxed beef exports to Indonesia are currently distributed through food service and modern retail sectors, most significantly, hypermarket chains (Meat & Livestock Australia 2014). During the period of 2014-2015, Australian exports of live cattle to Indonesia was 745,000 (741,000 slaughter cattle and 4,000 breeding cattle) (ABARES 2015).

Beef production in Indonesia has decreased from a level of 50% self-sufficiency in 1970 to 20% in 2006, while poultry meat production has increased from 10% in 1970 to 60% in 2006 (*Statistik Peternakan* 2007, cited in Ilham 2009). To overcome this shortage, the Government of Indonesia announced its intention to attain 90% self-sufficiency in beef production by 2014, reducing imports from 40% to 10% (Australian Trade Commission 2010). To achieve this, the government indicated that it would subsidise loans for the purchase of breeding cattle, as Indonesia relied on live cattle imports from Australia (Vanzetti *et al.* 2010, cited in Agriculture and Agri-food Canada 2011).

The shortage of local beef supplies is evident in Lampung, which is the major supplier to Jakarta, West Java and other provinces in Sumatra. Since 2005, 90% of the beef cattle slaughtered were ex-import Brahman cross and only 10% were domestic cattle. The slaughter of domestic cattle is limited to traditional meat-ball vendors and annual religious festivals (Ilham 2009). The limited supply of beef caused a significant increase in beef price. According to Sutawi (2013), from January to December 2012, the price of beef increased by 13%. Even in some Indonesian cities, the price of beef reached up to IDR 95,000 per kg - an increase of 30% over the previous price of IDR 75,000 per kg.

Due to the very high price of beef, most consumers opt for chicken meat. Before the 1997 world economic crisis, it was common for small traditional farmers to keep only ten native hens (*ayam kampung*) per farm. In contrast, modern poultry businesses with improved breeds of chicken (broiler) keep between 10,000 to 200,000 hens per farm (Sutawi 2013). Backyard poultry producers usually keep *ayam kampung* as an additional source of income on top of traditional farming. There are two rearing systems for *ayam kampung*: (1) intensive/semi-intensive; and (2) extensive traditional (Priyadi, Susantun and Dewanta 2004).

Broiler chicken businesses usually applied one of two types of management: (1) independent farmers who use their own capital; and (2) core-plasma farmers where the farmers breed chicken as plasma for a larger feed and marketing company (Priyadi, Susantun and Dewanta 2004). According to Muladno *et al.* (2008) (cited in Sumiarto and Arifin 2008), there are four types of commercial broiler industries: (i) full vertical integration; (ii) semi-vertical integration; (iii) partial vertical integration; and (iv) non-vertical integration. The distribution channel used by independent broiler chicken farmers is presented in Figure 2.3. Farmers sell half of their broiler chicken to large-scale sellers (30%) and retailers (20%) and the other 40% are sold to farm collectors who then sell to retailers (15%), consumers (15%) and large-scale sellers (10%).

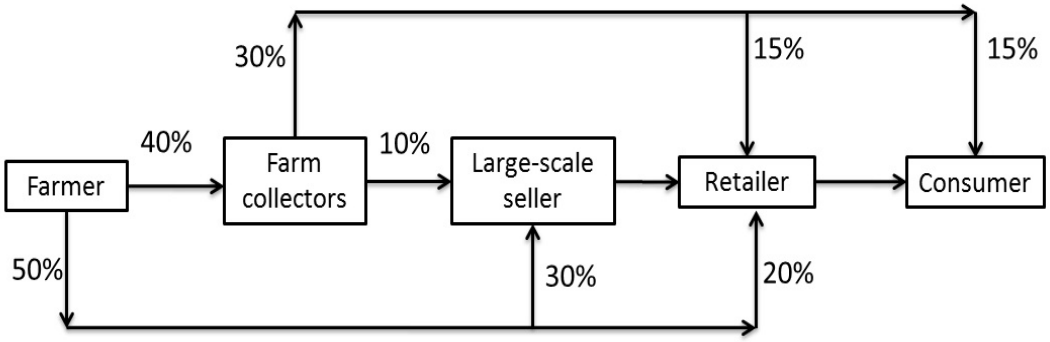


Figure 2.3: Distribution channel for broiler chicken (independent farmer) (Adapted Priyadi, Susantun and Dewanta 2004)

Live chickens are slaughtered and processed into halal and hygienic carcasses or chicken pieces. There are three categories of slaughter houses for broiler chickens, spent layers and *ayam kampung*: (i) modern; (ii) semi-modern and (iii) traditional slaughter houses. Modern slaughter houses produce more hygienic and expensive chicken meat, while traditional slaughter houses produce less hygienic and relatively cheap chicken carcasses (Sumiarto and Arifin 2008).

Traditional chicken slaughter-houses are located in districts and sub-districts, and many small-scale traditional slaughter houses are attached to traditional wet markets or operate inside wet markets. The number of birds slaughtered may range from 15 per day to slightly less than 100 per day (Sumiarto and Arifin 2008). However, according to Satriana (2013), most wet market vendors do not source their chicken from a slaughter-house but instead slaughter the chicken themselves. They do this because of the consumer demand for on-the-spot slaughtering and the non-availability of slaughter houses for chicken.

2.5 Changes in Indonesian food consumption patterns

Indonesian cuisine reflects a long history and is a mix of many cultures (India, the Middle East, China and Europe) and sub cultures (Rosenberger 1999, cited in Utami 2010). Food traditions in Indonesia are diverse, and food generalizations at the country level are difficult to establish (Owen 1999, cited in Agriculture and Agri-food Canada 2011).

For lower-income families, a typical meal consists of rice with vegetables, *sambals* (a spicy condiment made from chilli and shallot) and modest cooked dishes such as *tempeh*, tofu, fish and sometimes meat (Johnson, Weinberger and Wu 2008; Smith and Dawson 2004). As a

family's income increases, more diversity in food intake emerges with higher expenditure on fish, meat, poultry, dairy products and fruit. Furthermore, expenditure on prepared food and food consumed away from home also rises rapidly with income (Australian Trade Commission 2010).

Indonesia's diverse culture, with 250 ethnic groups (Freeman 2000, cited in Utami 2010), means that there is a wide variety of traditional dishes (Smith and Dawson 2004). However, within this diversity, over 88% of the country population is Muslim, most of whom adhere to halal food rules (Australian Trade Commission 2010; White 2009; Johnson, Weinberger and Wu 2008; Smith and Dawson 2004). The concept of halal, which means lawful or permitted, is an essential prerequisite for food consumption in a country in which the great majority of the population is Muslim. For Muslim consumers, halal concept offers safe, clean, healthy and tasty food (Alam and Sayuti 2011). For meat and meat products, halal requires that the meat must be obtained from permitted animal which has been slaughtered by mentioning God's name (Riaz and Chaudry 2004).

Despite its enduring traditional food culture, Indonesian food consumption patterns have changed over the last three decades with steady economic growth. The main characteristics of this change have been as follows: (1) a reduction in the per capita consumption of Indonesia's main staple, rice; (2) increased intake of wheat and wheat-based foods; and (3) an increased consumption of high-value products, such as fruit, vegetables, fish, meat, dairy products and processed foods (Johnson, Weinberger and Wu 2008; Chowdhury, Gulati and Gumbira-Sa-id 2005; Fabiosa 2005).

Similar trends are occurring across the developing countries of Asia. These trends can be best described under two headings: (1) income-induced diet diversification; and (2) globalization and westernization of diets, which is most apparent among the younger generation in urban areas (Suryana, Ariani and Lokollo 2008; Pingali 2006). Furthermore, Hawkes (2010) identified two key changes in the availability of highly processed foods in developing countries by transnational corporations (TNCs): (1) the spread of branded food products over unbranded foods, which has been facilitated by the growth of supermarkets which promote and educate consumers about branded products; and (2) the introduction of new ('Western') food over traditional foods, which is also facilitated by the increasing presence of supermarkets that invest in new product promotions.

As consumers become more exposed to global lifestyles, consumers' demand becomes more influenced by international markets. The extensive patronage of large-scale retail formats

suggest changing consumption patterns (Roslin and Melewar 2008). Whereas people in a traditional society mostly consume food from their own farm and are primarily concerned about the quantity of food, in modern society, food quality is the primary concern (Suryana, Ariani and Lokollo 2008).

As living standards have improved, urban consumers have become more aware of the holistic quality attributes and nutritional aspects of the food they consume. For these cosmopolitan, middle class Indonesians, modern, clean, refrigerated supermarkets are perceived to be considerably safer than the traditional wet markets or mobile vendors (White 2009; Gray 1996). Changes in information technology and consumers' lifestyles have influenced consumers' perception of the concept of quality of foods, as well as the way in which they shop for food. According to Rangkuti and Slette (2010), the average Indonesian consumer places more importance on price than quality and appearance, but also increasingly makes decisions based on health and nutritional concerns. Previous studies on consumers in USA (Wilcock *et al.* 2004) has revealed that food safety is a global concern and consumers' attitude towards food safety is not an independent issue, but rather it is linked to consumers' demographic and socio-economic status, culture, personal preferences and experience.

According to CBS (2005) cited in Suryana, Ariani and Lokollo (2008), the structure of food expenditure is significantly different in urban and rural areas. In urban areas, the share of staple food (rice) is only 10%, while in rural areas the share of staple food is 20% (Table 2.2). Furthermore, the share of processed food is much higher in urban areas than rural areas. However, in both urban and rural areas, the higher the income, the smaller the expenditure on grains. Moreover, the higher the income, the higher the share of processed food expenditure (Suryana, Ariani and Lokollo 2008; Smith and Dawson 2004).

Table 2.2: Structure of food expenditure (%) by region and expenditure class in Indonesia

Type of food	Urban region			Rural region		
	Low Income	Med Income	High Income	Low Income	Med Income	High Income
Rice	17.3	10.8	6.2	26.3	19.4	13.3
Tubers	0.9	0.8	0.6	2.4	1.8	1.6
Fish	9.4	8.9	7.4	10.0	10.7	10.3
Meats	3.5	5.1	6.5	2.0	3.4	6.1
Eggs	3.3	3.0	2.2	2.7	3.0	3.1
Milk	2.4	3.9	4.9	0.9	1.5	2.6
Vegetables	8.9	7.3	5.4	9.8	9.4	8.4
Legumes	3.8	3.0	2.0	3.3	3.4	3.3
Fruits	3.4	4.4	5.6	2.9	3.6	4.5
Fats (oils)	4.1	3.3	2.4	5.0	4.6	3.9
Prepared food and beverages	21.0	28.3	38.9	11.1	14.1	18.3
Tobaccos (cigarettes)	11.1	11.4	9.6	10.5	12.6	12.9
Seasonings	2.6	2.4	2.0	3.0	3.0	2.8
Others	8.3	7.4	6.3	10.1	9.5	8.9
Total	100	100	100	100	100	100

Source: CBS (2005) (cited in Suryana, Ariani and Lokollo 2008)

The entry of hypermarkets into fresh produce retailing has traditionally been executed through a deliberate strategy of improved food safety and hygiene, while offering a similar price with lower transaction costs to the consumer (through "one-stop shopping") and mimicking the freshness of the produce found in the wet markets (Minten and Reardon 2008). By offering fresh products of high quality with food safety assurances, modern retailers cater primarily to middle- and upper-income consumers (Schipmann and Qaim 2011).

2.6 Consumer shopping habits

Most low- to medium-income consumers shop at traditional retail outlets, such as wet markets and small provision shops and kiosks located around residential areas (Smith and Dawson 2004). The majority (90%) of Indonesian consumers still visit traditional markets for fresh fruit and vegetables (Planet Retail 2008, cited in Ridley 2009; Natawidjaja 2005). More recent research by ACNielsen also confirms that most consumers visit a wet market almost daily to purchase fresh vegetables, fruit and meat, but visit modern retailers for durable and personal care products (WARC 2011).

Many consumers visit traditional markets on a weekly basis (51%) and daily basis (36%) and visit nearby *warungs* on daily basis (76%). Conversely, they visit modern retailers less often, mainly on a monthly basis (hypermarkets 63%, supermarkets 74% and minimarkets 40%) (Sunanto 2012).

According to WARC (2011), the average Indonesian consumer typically patronizes three to four different retail stores depending on their needs. Among them, 30% of individuals use wet markets to pick up food for daily meals and 36% frequent minimarkets for "top-up" and "emergency" purchases. Some 85% simply opt for the closest store when obtaining groceries, with the majority generally purchasing from the same store. However, 21% said they could be tempted to purchase from alternative outlets by promotions and discount coupons from newspapers and flyers (WARC 2011). Ridley (2009) suggested that promotional campaigns such as seasonal discounts and store fliers are becoming more aggressive. Modern retail outlets also offer many in-store services, such as credit card payments and one-stop shopping, which are gaining popularity among middle- and high-income consumers.

As most Indonesians spend 50% of their total household income on food, most consumers are very price sensitive (New Zealand Trade and Enterprise 2012; Ridley 2009). The decision to purchase a product is mainly based on perceived value for money. Consumers are not generally brand loyal and prefer to purchase smaller pack sizes (Rangkuti and Slette 2010; Planet Retail 2008, cited in Ridley 2009). Retail stores have responded to the preference of the average consumer by providing smaller pack sizes and by offering discounted prices and generic branding for dry staples such as rice, sugar and cooking oils. Private labels are becoming a popular alternative that are perceived to offer good value rather than being cheap (Business Monitor International 2011, cited in New Zealand Trade and Enterprise 2012).

Most consumers purchase food on a daily basis and consume more fresh foods than packaged and processed food. This is due to a general preference for home-cooked food; however, buying precooked food from street-side stalls is a common practice (Rangkuti and Slette 2010; Planet Retail 2008, cited in Ridley 2009). Such frequent shopping is similar to other developing countries, where most homemakers shop daily for fresh food (Neven *et al.* 2006).

While the majority of Indonesian consumers visit their local wet market almost daily, busy urban consumers tend to shop on a weekly basis (KPMG 2006). They increasingly prefer to shop at supermarkets and modern retail outlets rather than wet markets due to the more comfortable shopping environment (air conditioned and more spacious), more complete range of goods, correct weight, guaranteed quality, food safety and cleanliness, more competitive price, good service and easier accessibility (Rangkuti and Slette 2010). With busier lifestyles, urban women are becoming less interested in price bargaining and are increasingly opting for modern retail outlets with fixed price tags (Indiastuty 2006).

Different opening hours between traditional and modern retailers also influence consumers' choice of retail store. All market formats are open approximately 14 hours a day, but supermarkets and hypermarkets open and close significantly later than the wet markets. Modern retailers therefore offer greater convenience to consumers who wish to go shopping after work (Schipmann and Qaim 2011). Most modern retailers are busiest from 5pm to 9pm and on weekends, as families often combine the weekly shop with a social excursion on Saturdays or Sundays (Smith and Dawson 2004). On the other hand, consumers with more flexible time, such as housewives and entrepreneurs, mostly shop in the morning from traditional wet markets (Kaswita 2011).

Ready-to-eat and ready-to-cook foods are increasingly popular because these meals require less time to prepare. This is, especially attractive to expatriates, middle- to upper-income consumers and working mothers. An increasing number of urban women are entering the workforce, and they therefore have less time available for shopping and cooking. Convenience is, thus, becoming an important consideration in the decision to purchase (Rangkuti and Slette 2010; Reardon *et al.* 2003).

According to Euromonitor International (2009c) (cited in Agriculture and Agri-food Canada 2011), urban consumers are spending more time working and commuting, so there has been an increase in the demand for more convenient food. The high demand for convenient food is apparent in the increasing purchase of pre-packed foods.

The use of ready-prepared ingredients and ready-to-eat meals is also encouraged by greater access to electronic products such as refrigerators and microwave ovens (Johnson, Weinberger and Wu 2008; Planet Retail 2007; USDA 2007, cited in Ridley 2009; Chowdhury, Gulati, and Gumbira-Sa-id 2005).

According to GAPMMI (Indonesian Food and Beverage Association), cited in Natawidjaja, Reardon and Shetti (2007), some 60% of the Indonesian population are being targeted by supermarkets via various retail formats and mass market pricing strategies. Middle- to upper- income consumers in the "A&B" segment (20%) are the bulk of shoppers in modern retailers, but the other 40% (lower-middle class and working poor, the 'C's') will be brought into modern retailers as prices move down. However, the GAPMMI data also shows that the remaining population (40%), the rural poor and a small part of the urban population, will continue to stay outside the modern retail formats for some time. This segment will continue to be served by the wet markets and small neighbourhood shops.

2.7 Traditional retail market

Traditional retailers in Indonesia include wet markets, small neighbourhood stores or provision stores and mobile vendors (hawkers) (Smith and Dawson 2004). The wet market is still the main distributor of fresh food in Indonesia as almost 80% of fresh food sales go through the wet markets. This traditional market has often become a reference channel for the foreign retailers because of its competitive price and wide range of products (Lim, Badarulzaman and Ahmad 2003).

Traditional wet markets are defined as open-air or covered gathering areas where small retailers (often sole operators) sell fresh produce, meat and other basic food products such as grain, oil and spices (Reardon and Berdegue 2002, cited in Suryadarma *et al.* 2010; Smith and Dawson 2004; Wei *et al.* 2003). In these traditional wet markets, prices are usually agreed upon through a bargaining process (Indiastuty 2006; Kuntjara 2005; Walker 1996). The floor is usually wet and dirty, and during business hours, the market can become very crowded. In addition to fresh produce, fish and meat sections, there are also stalls selling clothes, toys, cooked food and other daily necessities (Li and Houston 2001).

Indonesia has 13,450 traditional wet markets, which provide a source of income for 12.6 million small-scale traders (KOMPAS 2006, cited in SMERU Research Institute 2007)). The wet markets also have a historical role in Indonesian society (Setyawarman 2009), providing distinctive product varieties which can potentially attract tourists (Aliyah,

Daryanto and Rahayu 2007). In Indonesia, city governments own most traditional markets and manage them under the Office of Market Management. This office either entirely manages the markets or does so in cooperation with private companies (Suryadarma *et al.* 2010). The wet markets in Jakarta are usually divided into morning markets, night markets and specialized traditional markets (Muharam 2001, cited in Lim, Badarulzaman and Ahmad 2003).

Provision stores (large provision shops, small provision shops and *warung* provision shops) do provide traditional food products, but they principally stock dry goods. In rural areas, many of these provision stores are run as cooperatives (Smith and Dawson 2004). *Warungs*, neighbourhood stores that are so small that vendors sell cigarettes and candy from their living room windows (Sitathan 2003), often break down individual packs to accommodate the spending power of their consumers, for example, to sell a single cigarette. Other formats include the itinerant hawkers who sell an array of vegetables and basic meats (non refrigerated) from a push cart or bicycle (Walker 1996).

In Indonesia, some argue that traditional markets are the real victims of the intense competition from modern supermarkets. Traditional markets lose their customers as supermarkets provide cheaper products, higher quality products and a more comfortable shopping environment. Other than supermarkets, traditional markets also face competition from street vendors (stalls around traditional markets). These street vendors often block the market entrance (Suryadarma *et al.* 2010).

According to Walker (1996), the most significant protection for the wet markets rests with the consumers themselves who often view fresh food (including slaughter on the spot) from the wet market as being superior to the food sourced from supermarkets. Consumers shop at specialized and traditional stores (wet markets) for perishable products such as fresh fruit and vegetables (FFV) and meats, while shopping for non-perishables such as other food lines (frozen food, beverages) and groceries in modern retail outlets (Farhangmehr, Marques and Silva 2001; Goldman and Hino 2005; Vorley, Fearne and Ray 2007; Veeck and Veeck 2000).

Indonesian consumers prefer to shop at wet markets due to the following factors: (1) competitive prices and flexibility; (2) greater product variety; (3) easy access or proximity to home; (4) an enduring personal relationship with the vendor; (5) superior quality; (6) volume and availability (Muharam 2001, cited in Lim, Badarulzaman and Ahmad 2003) and (7) the ability to buy the desired quantity (Booz-Allen Hamilton 2003, cited in Vorley, Fearne and

Ray 2007). In spite of these strengths, consumers do complain that wet markets are dirty and often plagued by pickpockets (Muharam 2001, cited in Lim, Badarulzaman and Ahmad 2003), that the items are unsorted and quality ranges widely, and that these bazaars are mostly noisy and unhygienic by Western standards (Bucklin 1977).

2.8 Modern retailers

Despite the strength of traditional retailers, the modern retailers continue to grow steadily, especially in the large cities (Johnson, Weinberger and Wu 2008; Chowdhury, Gulati and Gumbira-Sa-id 2005; Smith and Dawson 2004). In the developing economies of the Asia-Pacific region, supermarkets typically first appear in the big cities, where they cater to a niche of high-income consumers. These modern retailers then spread to smaller cities, increasingly serving middle- to lower-income consumers (Tessier 2010; Coyle 2006).

Initially, the supermarket chains specialize in readily stored packaged and processed foods, which sometimes include dairy products, and then gradually move into fresh foods such as fruit and vegetables, meat and fish. This pattern of evolution is typical, for the supermarkets rarely have the procurement systems in place to purchase fresh food (Coyle 2006; Natawidjaja and Reardon 2006). However, as the modern retail sector developed, it improved with cost-cutting and quality, increasing procurement systems which led to increased competition with the traditional wet markets in terms of price, quality, freshness and variety of products (Reardon and Timmer 2007).

According to Presidential Regulation (PP) no. 112/2007, modern retailers in Indonesia are defined as self-service stores selling consumption goods (mainly food and household items). According to Dyck, Woolverton and Rangkuti (2012) the modern retailers are categorized by floor size and by the number of items sold (Table 2.3).

Table 2.3: Modern retail format definitions

Format	Total selling area (square feet)	Product selections/ feature
Convenience store and minimarkets	Less than 4,300	limited lines of staple foods and prepared foods and some non-food items and household goods
Supermarket	4,300 - 27,000	full lines of groceries, meat and produce and limited amount of non-grocery items
Hypermarket	Over 27,000	expanded selection of food and groceries and non-food items such as clothing and household goods

Source: Dyck, Woolverton and Rangkuti (2012)

The distinction between retail formats is not always absolute. It is difficult to distinguish, foe example, between small supermarkets and minimarkets, and between large wholesale stores and hypermarkets. Carrefour is primarily focused on individual shoppers, but its product variety and competitive price also attracts shoppers who purchase for re-sale. Similarly, Makro mainly serves businesses and institutions, but its attractive pricing and convenience environment also provides opportunity for many end consumers (Smith and Dawson 2004).

Supermarkets and hypermarkets offer a wide range of food and grocery products, and on average, these products contribute almost 65% of retail sales in these outlets. These retail formats usually include bakeries and restaurants, and are often the anchor stores in shopping centres (Rangkuti and Slette 2010).

The diffusion of supermarkets in Indonesia occurred in three distinct waves: 1970-1982, 1983-1997 and 1998-present). Between 1970 and 1982, the supermarket sector was a small niche market serving expatriates and upper-class Indonesians, mainly in Jakarta. Diffusion accelerated in 1983, peaking in the early 1990's (Natawidjaja, Reardon and Shetti 2007), when modern supermarkets had grown into a force powerful enough to challenge the traditional retailers (RIRDC 1995).

From 1969 until the financial crisis in 1997, government regulation closed the Indonesian retail sector to direct foreign investment by government regulation (Natawidjaja, Reardon and Shetti 2007; Walker 1996). Presidential Decree No 54/1993 forbade foreign firms from investing directly in retail businesses or to repatriate retail profits (RIRDC 1998). During the

period of 1970 to 1997, only local supermarkets were present, including Hero (which first opened in 1971), Kem Chicks and Gelael supermarkets (Kamath and Godin 2001).

Even during the period of protective regulation, several international chains were able to overcome these regulations by entering the Indonesian market through a franchise arrangement with local companies (Natawidjaja, Reardon and Shetti 2007; Walker 1996). The most common method for doing this was through a joint venture agreement with an Indonesian firm. Instead of passing on retail profits, the foreign company of the Indonesian partner was able to extract its profit margin through a franchise, technical assistance arrangement or through management fees (RIRDC 1998).

During this protective period, supermarkets were prohibited from opening within 200 metres of a traditional wet market and their trading hours were restricted from 10 am - 11 pm. The policy also required supermarkets to be confined to middle and upper-class areas. Furthermore, supermarkets in close proximity to traditional markets were not allowed to sell fresh fruit and vegetables, meat, fish and eggs (Kamath and Godin 2001; Walker 1996; RIRDC 1995).

Following the free trade agreement with ASEAN in 1995, however, Indonesia was forced to open its retail industry to competition by 2003 (RIRDC 1998). After the liberalization of Foreign Direct Investment (FDI) in 1998, the growth of supermarkets was rapid and the "take-off" period began (Mutebi 2007; Natawidjaja, Reardon and Shetti 2007). This liberalization policy provided opportunities for multinational retail giants such as Carrefour to enter the Indonesian market (Mutebi 2007). Since then, 11 foreign retailers have set up operations in Indonesia (Sitathan 2003).

Before the liberalization of FDI in 1998, there were 940 modern retail outlets in Indonesia (Canadian Embassy 2003, cited in Chowdhury, Gulati and Gumbira-Sa-id 2004) but by 2002, there were around 1400 outlets (Sitathan 2003). By 2008, hypermarket numbers had increased to 130 stores nationally and the number of minimarkets had increased to more than 10,000 (Pandin 2009).

By 2004, the modern retail market in Indonesia had acquired a market share of 18%, which further increased to 24% in 2008 (Pandin 2009). According to ACNielsen (2005), modern retailers have captured 30% of the overall food retail market. Modern retail outlets have been growing at nearly three times the rate of traditional retailers (15%), and thus the share that modern retailers had of the food market was expected to reach 50% by 2010 (USAID

2007). According to Natawidjaja, Reardon and Shetti (2007), informed observers believe that within a decade, modern retailers will dominate the Indonesian food market.

As is the case with other authorities in Southeast Asian countries, the Indonesian government has reacted to the rapid growth of multinational retailers by applying regulations. According to Mutebi (2007), examples of this type of policy are the competition law which seeks to safeguard the public interest as well as to promote economic efficiency; zoning restrictions on large retailers; and forbidding large retailers from opening before 10.00 am to protect small retailers. However, a number of these restrictions were lifted in 1998 after the government embarked on an IMF-supported reform program, such as lifting all bans on foreign investment in wholesale and retail trading.

Despite the lifting of some retail policy restrictions, Meat & Livestock Australia (2014) claim that the proportion of organised grocery retail in Indonesia, which was estimated at 24% of overall grocery retail sales in 2012, is considerably lower than that found in many other Asian markets. This is, in part, due to Indonesia's tough stance on regulating the spread of modern retailers across the country. Coe and Bok (2014) suggested that modern retail formats only account for 17% of total grocery sales, meaning that traditional formats still account for 83% of grocery sales in Indonesia. However, Business Monitor International (cited in Meat & Livestock Australia 2014) anticipates that the modern retail sector will grow to account for 32% of total grocery sales in 2021, compared to 24% in 2012. While this is a relatively modest growth rate, it still represents a significant increase in absolute terms because of Indonesia's significant and dynamic population size.

Local supermarket chains, which were traditionally small to medium-sized enterprises, have been surpassed by the foreign hypermarket chains such as Carrefour and Giant (Suryadarma *et al.* 2010; Natawidjaja, Reardon and Shetti 2007). The percentage of foreign investment in modern retail markets is thought to approach 66% for hypermarkets, 10% for supermarkets and 11% for mini-markets (International Business Strategies 2003, cited in Natawidjaja 2005). Domestic retailers represent 74% of the modern retail market, while foreign retailers account for 26%. Based on projected growth rates of 19 to 23%, foreign retailers were expected to represent as much as 31% of the market by 2007 (PriceWaterhouseCoopers 2004).

The expansion of the modern retail market was IDR 80.7 billion in 2007, representing growth of IDR 9 billion per annum in value terms. The biggest contributor to this growth has been the hypermarkets (37%), which emerged as the main retail format in 2003

(PriceWaterhouseCoopers 2004). In the period between 2007 and 2012, hypermarkets achieved impressive retail sales growth (Compound Annual Growth Rates/CAGR) of 15% compared to 13.9% for supermarkets and only 8.6% for traditional grocery retailers (HKTDC 2014).

First introduced in the early 2000s, hypermarkets have won consumer patronage by offering a massive product range at low prices, superior product quality and a one-stop shopping experience (Pandin 2009; Reardon *et al.* 2003; Sitathan 2003).

Hypermarkets, minimarkets and warehouse stores are now capturing most of the growth in the modern retail sector that was previously captured by supermarkets (Smith and Dawson 2004). From 2005 onwards, supermarkets have experienced a decrease in market share. In terms of location, supermarkets cannot compete with the minimarkets, and in terms of the product range, supermarkets cannot compete with the hypermarkets. In 2008, hypermarkets held the largest market share (42%), with minimarkets holding 32% and supermarkets holding 26% (Pandin 2009). Based on their 2006 market share, the top four hypermarkets were Carrefour, Makro, Giant and Hypermart. The top four supermarkets were Hero, Matahari, Superindo and Ramayana, while the main minimarkets were Indomaret and Alfamart (Market Research 2007).

In 2010, hypermarkets continued to have the largest market share in Indonesia (US$13.6 billion in sales), followed by supermarkets (US$11 billion) and minimarkets and convenience stores (US$5 billion). Carrefour, the biggest foreign retailer in Indonesia, dominated the upper end of the market (New Zealand Trade and Enterprise 2012). In 2008, there were five players in the hypermarket group and three of them dominated the market: Carrefour with 49% of hypermarket sales, followed by Hypermart with 22% and Giant with 18%. In the supermarket group, six main players had 76% of supermarket sales: Hero, together with compact Giant, 15%, Carrefour Express (14%), Lion Superindo (13%), Foodmart (13%), Yogya and Griya (12%) and Ramayana (11%) (Rangkuti and Slette 2010).

Due to the high concentration of retail outlets, especially in urban areas, price competition between the grocery channels is intense. Hypermarkets are currently taking market share from supermarkets and department stores, and the modern retail formats are taking market share from traditional wet markets and provision stores (Ridley 2009; KPMG 2006; Smith and Dawson 2004). Modern retailers are even mimicking the sales styles and appearance of the wet markets to gain a competitive edge by providing personalised attention and similar product containers (Reardon *et al.* 2003). Key players in modern retail formats have

invested heavily in advertising, rebates and promotions to gain market share, and as a result, the average selling price of fast-moving consumer goods among modern retailers fell by 3% in 2004. In the same period, the average prices of goods from traditional retailers increased by 1.3% (Data Consult 2003 cited in KPMG 2006). Key players in the Indonesian mass grocery retail sector are listed in Table 2.4.

Table 2.4: Key players in the Indonesia mass grocery retail sector

Parent Company	Country of Origin	Sales (US$ million)	Financial year	Brand	Format	No of outlets
PT Hero Supermarket Tbk	Indonesia/ Hong Kong	8,971	2010	Hero Giant StarMart	Supermarket Hypermarket Minimarket	120 38 125
PT Sumber Alfaria Trijaya Tbk	Indonesia	1,645	2010	Alfamart Alfa Minimart	Supermarket Minimarket	4812 N/A
PT Matahari Putra Prima Tbk	Indonesia	1,615	2009	Foodmart Hypermart Cut Price	Supermarket Hypermarket Discount Store	25 52 9
PT Carrefour Indonesia	France/ Indonesia	1,570	2010	Carrefour	Hypermarket Supermarket	63 16
PT Makro Indonesia (acquired by Lotte in 2008)	Netherlands	656	2010	Makro	Cash and Carry	20
PT Ramayana Lestari Sentosa Tbk	Indonesia	639	2009	Ramayana	Supermarket	104
PT Indomaret Prismatama	Indonesia	500	2010	Indomaret	Minimarket	5,174
PT Lion Superindo	Belgium/ Indonesia	431	2010	Superindo	Supermarket	74
PT Alfa Retailindo Tbk	Indonesia	187	2010	Alfa Alfa Grosir Gelael	Supermarket Supermarket Supermarket	35 8 11

Source: New Zealand Trade and Enterprise (2012)

2.9 Summary and conclusion

Following the global economic crisis in the 1980s and 1990s, modern retailers expanded rapidly from the developed to the emerging and developing countries. This expansion was

partly supported by market deregulation and policy reform. In Asia, this changing landscape provided an opportunity for large multinational retailers to enter the market. The expansion of modern retailers in the food and grocery sector has been recognized in previous research, where it has been referred to as 'internationalization' (Mutebi 2007), 'supermarketization' (Tessier 2010) and 'supermarket revolution' (Gorton, Sauer and Supatpongkul 2009).

As in most developing countries, the development of modern food retailers in Indonesia has resulted in the co-existence of traditional food retailers (traditional wet markets, independent grocers, roadside stores, small neighbourhood shops and street vendors) and modern retail formats (hypermarkets, supermarkets and minimarkets). The development of modern retailers, and most recently the introduction of the hypermarket format, has increased the competition between modern (typically also foreign or multinational) retailers and traditional retailers. However, the balance of market share between modern and traditional retailers varies considerably across Asia. As previously discussed, the share of market occupied by modern food retailers within Indonesia also varies considerably between urban and rural areas, as well as by product category, with modern retailers capturing a much greater share of the packaged food sector.

Theories of modern retail development suggest that modern retailers will be competitive first with upper-income consumers in urban areas and will then capture the market for processed and packaged food before the semi-processed and the fresh food markets. Therefore, in the initial stages of supermarket diffusion, consumers will exhibit some cross-shopping behaviour, purchasing fresh food from traditional retail stores while purchasing non-perishable products and dry food from modern retail outlets. Such split purchasing behaviour is indicative of selective adoption and is a common phenomenon in developing countries.

In Indonesia, after the liberalization of the FDI in 1998, modern retailers started to grow rapidly in the capital city (Jakarta) and its surroundings, before entering other major cities in Java and subsequently expanding to major cities in other islands such as Sumatra. Prior research on retail trends in Indonesia has been largely conducted in Java and has focused on the impact of modern retail stores on farmers and traditional wet market traders (Suryadarma *et al.* 2010; Natawidjaja, Reardon and Shetti 2007; Chowdhury, Gulati and Gumbira-Sa-id 2004). This study complements prior research by exploring consumer perceptions in one urban area (Riau Province) in Sumatra Island, which will illustrate the process of modern retail diffusion outside Java.

Hypermarkets offer the concept of 'one-stop shopping' to attract more consumers. They are also often located within a short distance of traditional wet markets. The rapid growth of hypermarkets and their large scale will undoubtedly increase competition in food retail and put more pressure on traditional retailers. Previous studies in Asian countries have shown that traditional retailers are beginning to lose some of their market share to modern retailers. However, as income diversity is high in Indonesia, many low-income consumers cannot afford to buy food from hypermarkets and supermarkets.

The literature review on Indonesian food retail sector indicates that traditional retailers have become increasingly exposed and their survival now relies primarily on consumers' preference and the observed cross-shopping behaviour between traditional wet markets and modern retail outlets. In the context of co-existence and escalating competition between modern and traditional food retail stores, a study which focus on consumer preference is needed. The next chapter will discuss consumer cross-shoppign behaviour in the context of food shopping.

CHAPTER 3

CONSUMERS' CROSS-SHOPPING BEHAVIOUR

3.1 Introduction

This chapter reviews the existing literature relevant to cross-shopping behaviour in food and grocery shopping with a focus on the escalating competition between traditional and modern food retailers. The chapter starts with a definition of consumer behaviour in the context of retail food shopping (Section 3.2) after which it discusses those factors which have been found to influence consumers' food shopping behaviour (Section 3.3).

Due to the increasing competition between traditional and modern food retailers in Indonesia, the next part of the chapter discusses literature related to the processes associated with the identification of consumer market segments (Section 3.4) and the findings of previous research as it relates to food and grocery shopping (Section 3.5). As consumers often purchase food from more than one retail outlet, this chapter then discusses cross-shopping in the context of food shopping (Section 3.6) which is followed by the chapter summary (Section 3.7).

3.2 Consumer food shopping behaviour

This section provides the context for cross-shopping in this study, which is limited to food products. Consumer behaviour can be defined as a 'discipline dealing with how and why consumers purchase or do not purchase goods and services' (Quester, Pettigrew and Hawkins 2011, p. 6). It has also been defined as "the study of the processes involved when individuals or groups select, purchase, use or dispose of products, services, ideas or experiences to satisfy needs and desires" (Solomon 2008, p. 7).

As a field of study, consumer behaviour is the study of consumers as they undertake the process of purchasing, consumption and evaluation, or, expressed differently, how consumers seek superior value in purchasing and consumption to satisfy their needs (Babin and Harris 2014). The study of consumer behaviour provides a more holistic approach to understanding why and how consumers evaluate, purchase and use products. Globalization and increasing international trade in consumer products across cultures has recently added an additional dimension to this field of study (Blackwell *et al.* 2007).

The relationship between consumer behaviour and marketing is crucial in retailing. By knowing which attributes are most important in a consumer's choice of retail store, retailers are in a better position to develop appropriate marketing strategies and ultimately to deliver superior value to consumers (Belwal 2009; Baltas and Papastathopoulou 2003; Reynolds, Ganesh and Luckett 2002).

The literature on store choice and store loyalty identifies a relationship between consumers' perceptions of a range of store attributes and store patronage. This suggests that, even in developing countries, at a most basic level, consumers prefer a retail store which suits their functional criteria (Paswan, Pineda and Ramirez 2010).

For food products, Von Alvensleben (1997) has identified the main motives influencing consumers' decision to purchase: (1) nutritional needs; (2) health consciousness; (3) enjoyment (taste, variety, festive occasions); (4) convenience in purchasing, preparation and consumption; (5) food safety; (6) compliance with the norms of a reference group such as religious convictions; (7) prestige; and (8) environmental/political/ethical, such as sustainable, fair trade, animal welfare or the boycott of a certain country of origin.

Based on the consumer decision making process, routine food purchases can be classified as predominantly habitual with some impulse buying, while extended problem solving decisions are rare (Von Alvensleben 1997). As food products are generally considered low involvement purchases, consumers are expected to minimize their time to purchase food (Park, Iyer and Smith 1989; Verhoef and Langerak 2001, cited in Picot-Coupey *et al.* 2009).

While food and grocery shopping is often perceived as a routine, non-recreational task in a Western context (Machleit and Eroglu 2000, cited in Jamal *et al.* 2006), in developing countries, where shopping malls are a relatively recent phenomenon, food shopping may be associated with hedonic feelings of entertainment or freedom from domestic chores. Moreover, with a higher percentage of the household budget spent on food, food shopping is an essential activity whereby consumers' decision making can be high involvement (Smith and Carsky 1996, cited in Jamal *et al.* 2006). Dissimilar to research in Western contexts, food shopping is an important activity in developing countries such as Indonesia, where food constitutes about 50% of total household expenditure (ACNielsen 2005). Therefore, Jamal *et al.* (2006) suggested that food shopping is a worthwhile area to study consumer shopping motivations and decision making.

3.3 Attributes which influence consumers' food shopping behaviour

According to (Peri 2006, p. 4), the concept of food quality can be presented as a set of consumer preferences including: product requirements, psychological requirements, guarantee requirements, packaging requirements and market system requirements (Figure 3.1).

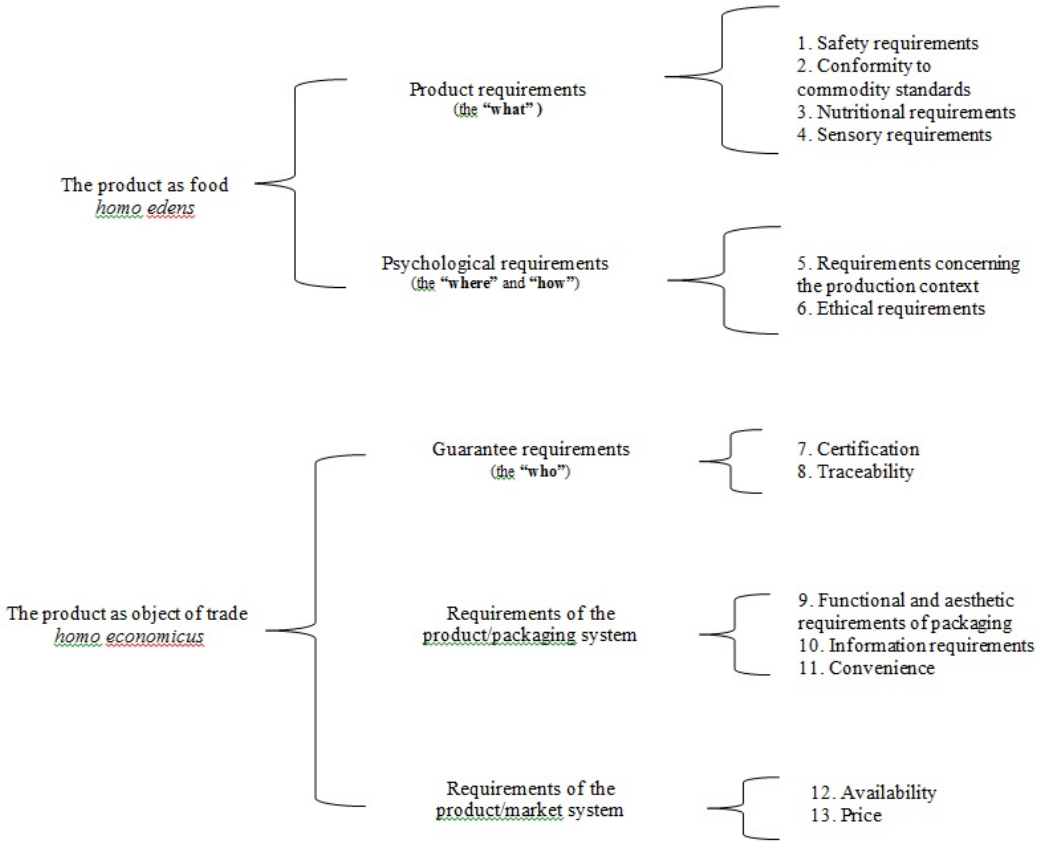


Figure 3.1: Food quality attributes from consumers' perspectives

Previous research (Paswan, Pineda and Ramirez 2010; Baltas and Papastathopoulou 2003) identified two key determinants (traditional utilitarian criteria and hedonic/intangible/psychological criteria (Table 3.2), which influence both retail store selection and product selection. These two determinants (utilitarian and hedonic criteria) relate to the well-established existence of task and recreational shoppers (Baker and Wakefield 2012), which is similar to Hughes (2009) description as drudge/chore and leisure/experience shopping. Similarly, Belwal (2009) suggests that the expression of these

two types of values (utilitarian-objective/rational aspect and the hedonic-subjective/emotional aspect) has been identified as influential factors to store patronage.

Table 3.1: Key criteria which influence consumer decision (product and store choice)

Criteria	Product choice	Store choice
Utilitarian criteria	Low price, warranty, product features, well-known brand name	Merchandise, convenience, price, need fulfilment
Hedonic criteria	Prestige, quality, style/appearance	Customer service, familiarity and comfort with shop owners and people working at the store, support local economy, role enactment and affiliation

Source: Paswan, Pineda and Ramirez (2010) and Baltas and Papastathopoulou (2003)

Consumers associate utilitarian criteria with product availability and features (Belwal 2009) such as nutritional value, reliability, quality, price and convenience (Sanlier and Karakus 2010), while hedonic criteria are ensured by features such as store environment, personal relationships and additional services (Belwal 2009).

Rather than a single value, most consumers visit a shopping mall based on a mix of these utilitarian and hedonic motives (Farrag, El Sayed and Belk 2010). Shopping malls combine traditional retail services with other value-added services such as food courts, recreational and gaming centres, creating centres for retailers and entertainments (Csabe and Askegaard 1999, cited in Khare 2011; Kozinets *et al.* 2004, cited in Farrag, Sayed and Belk 2010). Offering a wide variety of products, affordable prices, a comfortable atmosphere and leisure facilities, the emerging hypermarkets and shopping centres provide an attractive alternative for consumers to traditional markets (Akat *et al.* 2006, cited in Sanlier and Karakus 2010) .

Moreover, the proliferation of shopping malls has led some scholars (Goldman, Krider and Ramaswami 1999; Arnold, Oum and Tigert 1983) to identify entertainment as a distinct output for consumers other than utilitarian and hedonic outputs (Table 3.2).

Table 3.2: Examples of functional, social and entertainment outputs for consumers

Output types	Associated with/relates to	Examples
Functional outputs	Product	Quality, freshness, packaging, sources
	Assortment	Breadth, depth
	Convenience	In-store accessibility, in-store convenience
	Service	Information, responsiveness, expertise, adaptability to needs
	Time savings	One-stop shopping, store accessibility
	Price	Price levels, deals, return possibilities, payment terms
	Overall consistency	In service, availability, quality, and prices
Social outputs	Interaction possibilities	With other consumers, with sellers
	Embedment of the retail institution within the community	
Entertainment outputs	Shopping environment	Colourful, exciting, variety of different outlet types
	Non-shopping activities	Promotions, events, eating facilities

Source: (Goldman, Krider and Ramaswami 1999; Arnold, Oum and Tigert 1983)

According to Baltas and Papastathopoulou (2003), recent research on consumer food shopping has focused on two main components of the consumers' decision: product and store attributes. Compared to Peri's (2006) model of food quality, product (as food) is related to product attributes, while product (as an object of trade) is related to the store attributes. Regarding the classification of outputs as functional, social and entertainment, product attributes were mostly included in functional outputs (such as quality and freshness), while store attributes were included in all three types of outputs.

The following sections will discuss the product and store attributes from previous studies which will be included in the focus group interview guide and will be discussed further in Chapter 5 (Section 5.5, 5.6 and 5.7).

3.3.1 Product attributes

A category is a specific set of products that are perceived as related to each other or as substitutes by consumers (Fowler and Goh 2012). The examples of product categories are clothing, personal care, food and drinks (Fam 2007). One category can be classified further such as baking products may include varieties of cakes and brownies (Fowler and Goh 2012). Each product category has different attributes, which may influence consumers' preference in shopping as they usually have different perceptions of different products (Velotsou *et al.* 2004, cited in Chaniotakis *et al.* 2010).

Perceived characteristics of a product have a significant influence on consumers' food purchases and are considered to be a main variable of marketing strategy for food retailers (Kupiec and Revell 2001, cited in Ali, Kapoor and Moorthy 2010). According to Van Trijp *et al.* (1996, cited in Geetha *et al.* 2012), product-related attributes such as consumers' level of involvement and hedonic values are expected to influence variety-seeking behaviour. Product category also influences consumers' willingness to travel (Prasad and Aryasri 2011).

Jensen (2011) suggested that 'relative attitude' has a positive relationship on repeat purchasing, although the antecedents to relative attitudes vary across product categories. Some product categories offer a higher level of sensory experience which is involved in the attitude formation process. These antecedents are also influenced by personal variables, social norms and situational factors, which will be discussed later in market segmentation (Section 3.4).

3.3.2 Store attributes/outputs for consumers

Gorton, Sauer and Supatpongkul (2009) suggest that store attributes have a major influence on consumer store selection. However, these attributes are seldom included in retail research in developing countries (D'Haese, Van den Berg and Speelman 2008), primarily because most studies have focused on socio-economic and demographic attributes as determinants for food purchasing behaviour (Neven *et al.* 2006; Goldman, Ramaswami and Krider 2002).

3.3.2.1 Functional outputs

Consumers primarily select a food retail store which is perceived to provide desirable functional attributes such as high quality and safe food (Veeck and Veeck 2000, cited in Tandon, Woolverton and Landes 2011), affordable prices , convenient shopping experience

(Carpenter and Moore 2006) and safe, multipurpose shopping place (Farrag, El Sayed and Belk 2010). Other functional outputs include a low price and freshness (Suryadarma *et al.* 2010). According to Ali, Kapoor and Moorthy (2010), the most important variables for consumers are freshness, followed by price, quality, variety, packaging, convenience and non-seasonal availability.

As suggested by Roux *et al.* (2000, cited in D'Haese, Van den Berg and Speelman 2008), price aspects and special offers are the main variables influencing store selection for low-income families. However, consumers must also weigh up the costs of getting there and back. According to Baltas and Papastathopoulou (2003), despite the food retail density in Greece, consumers attach considerable importance to store location, which is partly due to high transportation costs. Kim and Jin (2001, cited in Baltas and Papastathopoulou 2003) also identified location as the most important variable for consumers' selection of a retail store.

Table 3.3 presents a list of functional outputs of a food retailer for consumers from previous research.

Table 3.3: Functional outputs for consumers

Functional outputs	Literature
Quality of goods	Patel, Shah and Shah (2011); Hino (2010); Gupta (2009); Joseph and Soundararajan (2009); Pan and Zinkhan (2006); Li and Houston (2001); Goldman, Krider and Ramaswami (1999)
Variety/assortment of products/brands	Tinggi, Jakpar and Padang (2012); Patel, Shah and Shah (2011); Prasad (2010); Gupta (2009); Joseph and Soundararajan (2009); Bianchi and Ostale (2006); Carpenter and Moore (2006); Pan and Zinkhan (2006); Li and Houston (2001); Goldman, Krider and Ramaswami (1999)
Family shopping	Farrag, El Sayed and Belk (2010); Joseph and Soundararajan (2009); Bianchi and Ostale (2006)
One stop/ multipurpose shopping	Farrag, El Sayed and Belk (2010); Joseph and Soundararajan (2009)
Convenience location /proximity/easy access/cost of time	Tinggi, Jakpar and Padang (2012); Patel, Shah and Shah (2011); Farrag, El Sayed and Belk (2010); Hino (2010); Ali, Kapoor and Moorthy (2010); Gupta (2009); Joseph and Soundararajan (2009); Carpenter and Moore (2006); Pan and Zinkhan (2006); Li and Houston (2001); Goldman, Krider and Ramaswami (1999)
Opening hours/ convenience timing	Tinggi, Jakpar and Padang (2012); Joseph and Soundararajan (2009); Carpenter and Moore (2006); Pan and Zinkhan (2006)
Customer service/ attention	Tinggi, Jakpar and Padang (2012); Ganesh, Reynolds and Luckett (2007); Pan and Zinkhan (2006); Goldman, Krider and Ramaswami (1999)
Quick check out	Pan and Zinkhan (2006)
Home delivery	Joseph and Soundararajan (2009)
Parking facility	Patel, Shah and Shah (2011); Ganesh, Reynolds and Luckett (2007); Carpenter and Moore (2006); Pan and Zinkhan (2006)
Honesty/goodwill/ fairness to customer	Joseph and Soundararajan (2009)
Price/low price/ opportunity to bargain/ price competitiveness/ value for money	Chamhuri and Batt (2013a); Tinggi, Jakpar and Padang (2012); Patel, Shah and Shah (2011); Gupta (2009); Joseph and Soundararajan (2009); Carpenter and Moore (2006); Pan and Zinkhan (2006); Li and Houston (2001); Goldman, Krider and Ramaswami (1999)
Promotional offers/ advertising	Tinggi, Jakpar and Padang (2012); Patel, Shah and Shah (2011); Gupta (2009)
Credit facility/credit availability	Joseph and Soundararajan (2009); Neven et al. (2006)
Self-select with own hands/ choice of loose items/able to pick up products with my own hands	Joseph and Soundararajan (2009)
Security/safety	Farrag, El Sayed and Belk (2010); Ganesh, Reynolds and Luckett (2007); Carpenter and Moore (2006)

3.3.2.2 Social outputs

Social attributes are generally associated with traditional food retailers. According to Mutebi and Ansari (2008) (cited in Coe and Bok 2014), small traditional retailers know their local consumers better than large modern retailers. Likewise, Coe and Bok (2014) and Chikweche and Fletcher (2010) have argued that, personal relationships are perceived as more important for traditional retailers, because lower income consumers often rely on close relationships with the retailer to be able to purchase on credit. According to the Expat Web Site Association (2010, cited in Agriculture and Agri-food Canada 2011), consumers may also get better prices due to their relationship/loyalty to patronised market vendors. Hino (2010) also found that store familiarity was a major determinants for Arab (Jordanian and Israeli) households to purchase food from traditional food retail stores. Related to personal relationships, Hino (2010) found that the friendliness of the seller was a major consideration for many consumers (Table 3.4).

Table 3.4: Social outputs for consumers

Social outputs	Literature
Interaction/store familiarity/personally known by shopkeeper	Coe and Bok (2014); Chamhuri and Batt (2013a); Chikweche and Fletcher (2010); Hino (2010); Paswan, Pineda and Ramirez (2010); Gupta (2009); Goldman, Krider and Ramaswami (1999)
Friendliness	Mortimer and Clarke (2011); Sohail (2008); Carpenter and Moore (2006); Pan and Zinkhan (2006); Li and Houston (2001)
Meeting neighbours/friends	Chamhuri (2011); Tessier (2010)
Embedment/support local economy	Paswan, Pineda and Ramirez (2010); Goldman, Krider and Ramaswami (1999)
Locally produced/country of origin	Gupta (2009)

Other social outputs identified in previous research were the need to meet neighbours or friends while shopping, and supporting local traders or the economy. According to Suryadarma *et al.* (2010), Indonesian consumers view traditional retailers and markets as a place to interact with neighbours and friends. Supporting the local economy such as by

buying local products is highly important to consumers in the Asia Pacific region, including Indonesians (Datamonitor 2009c, cited in Agriculture and Agri-food Canada 2011).

3.3.2.3 Entertainment outputs

Many consumers prefer a comfortable shopping place which provides a variety of entertainment and additional facilities (Ali, Kapoor and Moorthy 2010). Much of the previous research on consumer behaviour has identified the importance of store environment/atmosphere in influencing consumers' store choice. Shopping atmosphere is mostly associated with modern shopping malls, which supports the existence of other entertainment facilities such as promotional events and restaurants (Table 3.5).

Table 3.5: Entertainment outputs for consumers

Entertainment outputs	Literature
Shopping environment/store atmosphere/presentation /cleanliness/display/decor/attractiveness of the store/ambience	Patel, Shah and Shah (2011); Gupta (2009); Ganesh, Reynolds and Luckett (2007); Bianchi and Ostale (2006); Carpenter and Moore (2006); Pan and Zinkhan (2006); Li and Houston (2001); Goldman, Krider and Ramaswami (1999)
Restaurants/eating out facilities	Sohail (2008); Carpenter and Moore (2006)
Promotional/special/celebrity events	Carpenter and Moore (2006)

According to Gauri, Trivedi and Grewal (2008), as consumers become busier, they tend to minimize the time they use for shopping, so they combine different destinations and purposes. Therefore, they suggest that complementary facilities such as a recreational centre may encourage consumers' to visit a retail outlet. According to Wang *et al.* (2000), new retail formats have also developed entertainment facilities to enhance customer flows However, studies such as Baker (1999) and Christiansen *et al.* (1999) cited in Wang *et al.* (2000) have indicated that the combination of retail stores with entertainment facilities seldom results in the encouragement of cross-shopping in malls, and that entertainment can actually be a distracter and not a facilitator to shopping behaviour.

Consumers may visit shopping malls with multiple motives in mind or they may visit the mall with a specific reason in mind. However, once the consumers are in the mall, the situation may trigger different motives (Wakefield and Blake 1985, cited in Farrag, El Sayed

and Belk 2010). Farrag, El Sayed and Belk (2010) identified that the highest percentage of visitors in shopping malls were teenage girls with low economic ability. This group were labelled as "strivers" for they were being directed by some hedonic values (modernity, freedom and entertainment) as well as by bargain hunting.

In the context of promotions, price specials are seen as being more related to functional outputs for consumers, while promotional events such as inviting a celebrity to a shopping mall can be seen as an entertainment output. According to HKTDC (2014), shopping malls often stage different kinds of promotional events such as exhibitions, workshops and musical entertainment to attract visitors and encourage them to stay longer.

3.4 Market segmentation

The development of retail store formats in Asia is influenced by two key dimensions: the business environment and the needs of shoppers (Coca Cola Retailing Research Council Asia 2007). The business environment relates to the retail system and government policies (Goldman, Krider and Ramaswami 1999), while the needs of shoppers are more related to consumer preference and economic ability (income, mobility, storage facility) (Hino 2010).

Related to the two key dimensions, Radder and Roux (2005)(cited in Sanlier and Karakus 2010) suggested that consumers' food choice is influenced by: (1) consumer attributes such as demographics, familiarity and habit, and psychographic variables; and (2) market attributes such as price and promotion.

Goldman, Ramaswami and Krider (2002) suggested that consumers' choice between modern and traditional retailers depends on the format image (store outputs to consumers), consumers' socio-demographic characteristics (i.e., financial resources), and the type of product and situational factors (the context of usage, the emergency of needs). Ali, Kapoor and Moorthy (2010) concluded that consumer purchasing behaviour for food items is influenced by socioeconomic, psychological, lifestyle and cultural variables. One example of cultural variables is the difference between western and non-western consumers. According to Chikweche and Fletcher (2010), Engel attempted to generalise consumer spending patterns across markets using western markets as the basis. Engel's preposition is that once basic needs are met, disposable income is expected to determine consumer buying behaviour. However, in subsistence markets such as Bangladesh and India, fulfilling human basic needs is paramount in the consumers' decision to buy food. In this condition, consumers attempt to substitute food or soap with cheaper choices. Therefore, Chikweche

and Fletcher (2010) suggested that needs are not universal but vary across markets and cultures, especially between subsistence or developing countries versus western markets.

With the availability of a more diverse range of products, information and a greater choice in the variety of retail formats, consumers have become more demanding (Yu 2006). With increasing competition, understanding consumers has become critical in securing market share. According to Quester, Pettigrew and Hawkins (2011) and Poulos (2007), as the competition intensifies, marketing strategies should focus on only a part of the market and address the specific needs of a particular consumer group (market segment). As consumers differ markedly in their motivations, needs, decision process and buying behaviours, customized products are expected to provide more satisfaction (Blackwell *et al.* 2007).

According to Poulos (2007, p. 11) market segmentation is "the practice of breaking up a market customer population into smaller groupings along lines that allow product design/marketing efforts to address specific characteristics of these chosen groupings". One example of market segmentation is benefit segmentation (Quester, Pettigrew and Hawkins 2011), which is segmenting consumers based on the importance of the attributes consumers look for in certain products or retail stores (such as safety, healthiness and economy). Consumers with similar ratings of importance for certain attributes will be grouped together.

Kotler *et al.* (2013) outlined four alternative criteria for segmenting consumers: geographic, demographic, psychographic and behavioural aspects (Table 3.6).

Table 3.6: Key criteria for segmenting a market

Basis for segmentation	Segmentation criteria/typical breakdown
Geographic	Region, city size, density, climate
Demographic	Age, gender, family size, family life cycle, income, education, occupation, religion, nationality
Psychographic	Socioeconomic quintiles (AB, C, D, E, FG), status, values, attitudes and lifestyle groupings, personality
Behavioural	Purchase occasion, benefits sought, usage status, usage rate, loyalty status, online behaviour, buyer-readiness stage, attitudes towards product

Source : Kotler *et al.* (2013)

According to (Blackwell *et al.* 2007), when many alternative consumer segments have been identified, a firm can identify that one segment is significant if the segment is: (1) measurable (in characteristics and behaviour); (2) accessible; (3) substantial (in the size of the segment); and (4) congruent (among the member of the segment).

The major interest of many researchers and practitioners is to understand what criteria are most influential in the consumers' tendency to purchase products. Based on previous studies, there are many approaches to explain individual differences such as consumer lifestyles, psychographics and demographics, which explain why consumers follow a certain pattern of behaviour (Babin and Harris 2014). According to Blackwell *et al.* (2007), other than demographics, geographic, psychographic, personality, values and culture, consumers can be grouped based on situational criteria (time, place of consumption/usage and work versus leisure usage).

3.4.1 Geographic

Consumers' store of choice can also be influenced by geography (see for example Prasad and Aryasri (2011). Reardon *et al.* (2003) identified that in Latin America, Africa and Asia, the share of the fresh food market captured by modern retailers varied greatly within individual countries and between urban and rural areas. Home (2002) also identified that within a country, consumer patronage behaviour (store choice) was influenced by the consumers' location in either an urban or rural area. According to Ihara (2013), this is related to the difference in consumers' income, distribution and social structure between rural and urban areas.

Likewise, Solomon, Russell-Bennett and Previte (2010) suggested that residential area was an influential factor of lifestyle, and researchers today can use geo-demography to assess consumption patterns using geographic and demographic information to identify groups of consumers with similar psychographic attributes.

In this study, the consumer survey was conducted in an urban area only (Pekanbaru City) because the topic on consumer cross-shopping behaviour required that respondents had access to both traditional wet markets and modern food retail stores (hypermarket, supermarket and minimarket). Therefore, in this study the geographic attribute was defined as geographic proximity, which has been identified in previous study as one attribute influencing store choice. Hirsch and Hillier (2013, p. 304) identified geographic location as

one theme of urban consumer store choice and referred it as 'proximity to house, workplace or other store'.

3.4.2 Culture

In global marketing, the acceptance of a new product or store format will be influenced by its sociocultural environment (Ho and Lau 1988, cited in Maruyama and Wu 2014b). Consumer studies have repeatedly identified culture as one of the key factors influencing consumer behaviour as it influences the value consumers attach to different products (Babin and Harris 2015). Most societies today are pluralistic and consist of different consumer segments, mostly ethnic groups, each of which is associated with a certain cultural identity such as specific clothing or food used by the household members (Wagner and Soberon-Ferrer 1990).

Some studies such as Hino (2010) have identified the influence of religious and ethnic-cultural variables on consumers' acceptance of supermarkets in Israel and Jordan. Similarly, Jamal *et al.* (2006) concluded that ethnicity can influence shopping orientation, as shopping value and motives are a consequence of cultural and ethnical background. For example, in Omani culture, males usually handle chores outside the house, so women rarely go shopping alone (Belwal 2009). Related to this, Sehib, Jackson and Gorton (2013) suggested that female consumers in Libya feel more comfortable to shop in modern supermarkets compared to the crowded traditional markets. Therefore, culture may act as facilitator for the development of modern retailers.

Belwal (2009) found that Omanis prefer traditional markets *(souqs)* for bargains, but non-Omanis prefer hypermarkets to get fixed, standard prices, worrying that they might pay higher prices at traditional *souqs*. Lee (2000, cited in Maruyama and Wu 2014b) found that Chinese consumers were more conscious of bargains when shopping compared to mainstream consumers in the USA.

In a study on the influence of ethnicity on selected household expenditure (clothing, food away from home, and food at home), Wagner and Soberon-Ferrer (1990) demonstrated that ethnicity was significantly related to expenditures in each product category, even though the effect of ethnicity was small. Ethnicity may also influence store choice, due to the availability of ethnic food. Belwal (2009) found that Omani consumers visited traditional markets to buy specialty products that they could not find in hypermarkets.

The effect of ethnicity on household expenditure is an important finding, because the behaviour of ethnic consumers has often been attributed to differences in income (Wagner and Soberon-Ferrer 1990). In Malaysia, ethnic Malays tend to have lower socioeconomic status than ethnic Chinese (Dunn, Tan and Nayga 2012). In New Zealand, Ni Mhurchu *et al.* (2013) found that although the demand for food is relatively inelastic, lower income and indigenous ethnic groups such as Maori people have a greater sensitivity to changes in price.

Based on their research findings, Wagner and Soberon-Ferrer (1990) suggested that the effect of ethnicity may vary across product categories. According to Mooij (2004), distinguishing value variations by product category is necessary to understand consumer behaviour across cultures, because motives for buying certain products vary strongly across cultures. A category may also be defined by occasion, such as products related to a religious festival (Fowler and Goh 2012). For example, in Indonesia, the demand for certain animals such as goats, sheep and cows peak during the festival of *Idul Adha* (Murray-Prior *et al.* 2013). During the fasting month each year (*Ramadan*) and the end of *Ramadan (Idul Fitri/Lebaran)*, the consumption of food such as cakes, sweets and meats increases as does the sharing of food for community consumption (Hellman 2008; Smith and Dawson 2004).

3.4.3 Socio-demographic factors

While it is difficult to measure behaviour, it is relatively easy to measure consumer characteristics such as income, age, or gender (Blackwell *et al.* 2007). Empirical evidence from ten studies conducted between 2000-2007 show that socio-demographic variables such as gender, age, education and income are influential in consumer food purchasing patterns (Ali, Kapoor and Moorthy 2010). Carpenter and Moore (2006) noted that consumer-related attributes are significant determinants of store choice.

Baltas and Papastathopoulou (2003, p. 499) concluded that consumers with different demographic profiles may exhibit different preferences for product and store criteria. One example from Ihara (2013) demonstrated that the typical hypermarket shopper is younger, with a relatively higher income, has children, and owns a car. Similarly, younger consumers preferred to use modern formats (Shiu and Dawson 2001, cited in Tandon, Woolverton and Landes 2011). Busier households opted for convenience food (Tandon, Woolverton and Landes 2011) as this helped to reduce the number of shopping trips (Prasad and Aryasri 2011).

Household income will influence food purchasing behaviour, because if the income increases, the total percentage budget allocated to food generally decreases (Kenslea *et al.* 1985, cited in Sanlier and Karakus 2010). More affluent consumers upgrade their diet by purchasing more high value foods, eating out more often and purchasing more processed and convenience food (Landes *et al.* 2004, cited in Ali, Kapoor and Moorthy 2010) . Ali, Kapoor and Moorthy (2010) also concluded consumers with sufficient disposable income were more aware of latest issues in food safety. Watchravesringkan and Punyapiroje (2010) suggested that consumers from middle income groups were more appreciative of the services provided by modern food retailers. Bai, Wahl and McCluskey (2008) suggested that consumers with higher income and access to transportation are more likely to shop at hypermarkets.

More affluent households are more cognisant of the higher opportunity cost of time and are more likely to have a car (for shopping access) and a refrigerator (for fresh food storage), both of which influence food retail choice (D'Haese, Van den Berg and Speelman 2008). Belwal (2009) suggested that consumers who visit retail stores by cars pay more attention to the parking facilities, shopping convenience, and the product variety. If dissatisfied, they are more likely to drive to an alternate hypermarket/mall.

Wagner and Soberon-Ferrer (1990) found that total consumption expenditures, the proxy for income, was positively related to expenditures in all three product categories (clothing, food at home, and food away from home). The elasticity (with respect to total consumption expenditures) of food away from home was more than 1.0, suggesting that it is a luxury for consumers in the USA. That is, as income increases, expenditure on food away from home is likely to increase more rapidly than income. Sanlier and Karakus (2010) revealed that consumers who spend a higher percentage (50 per cent or more) of their income on food pay more attention to cost-related attributes than consumers who spend less on food.

Konus, Verhoef and Neslin (2008), however, concluded that demographics are not always related strongly to behaviour, as confirmed by the inconsistency in research findings. Soopramanien and Robertson (2007, cited in Konus, Verhoef and Neslin 2008) suggested that demographic variables of consumers are less important for segmentation than attitudes and beliefs.

3.4.4 Psychographic variables

Market segmentation groups consumers with similar behaviour, not necessarily similar characteristics. However, consumer behaviour researchers use consumer characteristics because they are correlates or 'proxies' for behaviour, not because the characteristics are determinants of why people buy. For example, some low income consumers might buy an expensive product and some high income consumers might choose to buy a lower priced product (Blackwell *et al.* 2007). In other words, consumers in the same demographic group often have very different shopping motives (Sinha 2003 cited in Prasad and Aryasri 2011).

In marketing, recognizing lifestyles is important because different lifestyles drive different needs (Brown 2004). According to Poulos (2007), psychographic segmentation identifies individual differences in lifestyle and personalities. Demographic data allows researchers to describe who buys, but psychographics tells why they buy. Psychographic research can take many forms such as: (1) a product-specific profile which identifies a target group and then profiles those consumers on product-related dimensions; and (2) product-specific segmentation which tailors questions to a product category, so researchers can discriminate between users of competing brands (Solomon, Russell-Bennett and Previte 2010).

The assortment of goods and services used by a consumer is a mirror image of his/her lifestyle (Cosmos 1982, cited in Prasad and Aryasri 2011). Consumers' lifestyle refers to the way consumers choose to spend time and money, and how their values and tastes are reflected in consumption choices. Lifestyle (psychographic) research is useful to track societal consumption preferences and to position specific products to different segments (Solomon, Russell-Bennett and Previte 2010). Psychographic techniques attempt to classify consumers in terms of subjective variables such as psychological, sociological and anthropological attributes in addition to observable characteristics (demographics) (Solomon, Russell-Bennett and Previte 2010; Schiffman and Kanuk 2004). Furthermore, Solomon, Russell-Bennett and Previte (2010, p. 177) suggest that psychographic segmentation can be applied in different ways: (1) to define the target market; (2) to create a new view of the market; (3) to position the product to fit consumers' lifestyle; and (4) to better communicate product attributes.

Some commercial systems have been developed to identify consumer segments based on consumers' brand or product preferences, media usage, leisure-time activities and attitudes towards different topics such as politics and religion. This is known as activities, interests and opinions (AIOs) (Solomon, Russell-Bennett and Previte 2010, p. 186). One of the most

popular systems based on consumers' lifestyle is the values and lifestyle system (VALS), which was developed by the Stanford Research Institute (SRI) in California (Prasad and Reddy 2007).

Lifestyle includes the way in which households choose to spend their money (Parsons 1975 and Barth 1969, cited in Wagner and Soberon-Ferrer 1990). Grunert *et al.* (2011) concluded that based on an initial analyses of Food-related Lifestyle, the instrument could be successfully applied to various European and other western food cultures. However, there was little cross-cultural validity between western and Asian populations. Tam and Tai (1998) found it necessary to add some ad hoc lifestyle statements to the standardised statements borrowed from previous research to include specific social and cultural consumer traits in Taiwan, Hong Kong and China.

3.4.5 Behavioural/situational/occasional factors

According to Poulos (2007), behavioural segmentation focuses on behavioural aspects such as the level of usage, type of usage and brand loyalty. Research has shown that situation-specific traits are able to predict consumer preferences for a brand, product or behaviour better than general personality traits (Solomon, Russell-Bennett and Previte 2010).

Babin and Harris (2015, p. 227) define 'situational influences' as "temporary conditions which directly affect both consumer decision making and the eventual value experienced". These situational influences can exist in the forms of condition (such as consumers' economic condition at a time), time pressure or place (the environment may make the consumer relax and stay longer, or alternatively, where time is short, the consumer may have to make an immediate decision).

As shopping behaviour is contextual and situation-based (Khare 2011), the share of patronage that a retail store is able to capture will depend upon its ability to meet shopper's needs at a specific point in time (Coca Cola Retailing Research Council Asia 2007). The nature of the task is also recognized among the factors influencing store choice: urgent needs generally encourage the consumer to purchase from the nearest store (Van Kenhove *et al.* 1999; Van Waterschoot *et al.* 2008, cited in Tinggi, Jakpar and Padang 2012). Thus, the frequency with which a consumer visits a particular retail store will be affected by situational factors including task definition, for example, bulk or small top-up purchases, urgent needs to buy or the desire to take advantage of any promotional offers.

Situational factors can also be seen as determinants or conditions of shopping trips, which will define the weighting of the importance of the factors affecting the choice of retail store (Yang 2006). In part, this is related to the distinction Hughes (2009) makes between drudge shopping (routine) and leisure shopping (special occasions). According to Nordfalt (2009, p. 2), for a major shopping trip, consumers have a greater economic incentive to look for good deals and lower prices than on smaller shopping trips. Top-up trips are typically defined as shopping trips with a clearly defined goal that seldom lead to unplanned purchases. Another example is that for routine shopping, consumers will prefer a store with a wide product selection that provides bulk packs, while for festive shopping, they will focus on special needs (Coca Cola Retailing Research Council Asia 2007).

Routine bulk shopping is similar to major shopping trips and are defined as regular trips, performed on a preferred day rather than when there is an urgent need, with the aim of purchasing the household's more commonly used items which generally require a lot of time, effort and money (Nordfalt 2009, p. 3). According to East (1997), a number of studies have shown that households generally undertake a once a week routine food and grocery shop and one or more secondary quick trips. Expenditure for the main shopping trip is about three times that of a quick trip.

Situational factors and product categories will influence consumers' perceptions and classifications of retail stores. For example, consumers may shop with a certain frequency and shop for a specific product. Accordingly, they will classify stores based on those shopping patterns, such as stores for weekend shopping and stores where only one product category is purchased (Outi 2001).

One major factor affecting consumer decisions to purchase is the importance of the purchase. Studies proposed three different types of consumer decision processes: (i) a simple habitual process; (ii) one with moderate information processing; and (iii) one with extensive information processing (Bettman, Johnson and Payne 1991). Related to this is the classification of the consumer decision process into high involvement products and low involvement products (Engel *et al.* 1993, cited in Von Alvensleben 1997).

For high involvement products, consumers are willing to put more efforts because the decision bear a high risk if the choice is wrong due to a high price, a relatively long purchase cycle (non routine purchase), and relatively high risk involved (Quester, Pettigrew and Hawkins 2011). On the one hand, this leads to an active information search and comparison of many alternative products based on their respective attributes. On the other hand, low

involvement products bear a low risk of having made a poor choice because of their low price, shorter purchase cycle, and low risk involved. Furthermore, in many instances, the costs of searching for additional information outweighes the expected benefit. In this context, consumers mostly make choices based on existing information or with a limited number of evaluation criteria (Poulos 2007; Von Alvensleben 1997).

Babin and Harris (2015) have identified four types of shopping activities: (1) acquisitional shopping, which is oriented toward a specific intended purchase; (2) epistemic shopping, which is oriented toward acquiring knowledge about products; (3) experiential shopping, which is fun, social and relaxation oriented; and (4) impulsive shopping, where consumers undertake spontaneous activities which are directed towards emotional and immediate self-fulfilment.

Babin and Harris (2015) also suggested that, based on reversal theory, the shopping environment can change consumers' shopping orientation during a shopping trip, where consumers can switch from utilitarian value to hedonic value.

3.5 Consumer typology

As a market segment classifies consumers with similar needs and behaviour, businesses can adjust their marketing strategy to meet their specific needs and thus increase the opportunity to sell (Blackwell *et al.* 2007). According to Von Alvensleben (1997), the two main purposes to construct a consumer segment or typology are to: (1) understand the market better and identify future consumer behaviour trends; and (2) help focus on the needs of specific consumer groups. For this study, segmentation is expected to identify consumer groups based on their determinants to shop from traditional wet markets and modern food retail stores.

While there is a paucity of literature on Indonesian market segmentation, there are a number of studies that have described food retailing environments similar to the situation in Indonesia which will adequately inform the study. The relevant studies will be discussed in the following section.

Moye and Kincade (2002) have found that shopper types vary across studies. Consumers can be segmented based on recreational activities, lifestyle, mall shopping, shopping motivations, geographic location, gender and age group. According to Reynolds, Ganesh and Luckett (2002) these typologies offer little in terms of generalizability and

comparability. However, Jayasankaraprasad and Kathyayani (2014) argued that the four types of grocery shoppers (economic, personalizing, ethical and apathetic) illustrated by Stone (1954) are still relevant today.

Stone (1954) identified that economic shoppers placed the greatest importance on price, quality and variety and are oriented toward shopping efficiency. The personalising shoppers highly valued a personal relationship with the retailer. The ethical shoppers showed interest in supporting local small-scale retailers and were willing to sacrifice lower price or larger assortments for this purpose. The apathetic shoppers viewed shopping as a task and consequently, convenient location was more crucial for them than price, quality, a personal relationship or ethics.

Over the last six decades, shopping motivations (consumers' needs related to retail store choice) have been widely considered as one of the most helpful criteria in identifying shopper segments (Jayasankaraprasad and Kathyayani 2014). Understanding consumer motives to purchase products provides insights on consumers and their environments, which helps retailers to target consumer groups more efficiently through segmentation (Moye and Kincade 2002). According to (Rohm and Swaminathan 2004), primary shopping motives underlie existing shopping typologies including convenience/time saving, shopping experience, social interaction and information seeking.

Competition in the food retail sector through the diffusion of modern retailers in developing countries has also influenced consumers' preferences, perceptions, attitudes and needs (Jamal *et al.* 2006). A few studies have attempted to identify retailer typologies based on shopping motives, store attributes and consumer characteristics in a non-western context (Jayasankaraprasad and Kathyayani 2014).

Prasad and Aryasri (2011) identify five common shopper segments among Indian food and grocery consumers based on demographics, psychographics and shopping motives related to traditional *kirana* stores, convenience stores, supermarkets and hypermarkets: (1) hedonic; (2) utilitarian; (3) autonomous; (4) conventional; and (5) socialisation. Mehta, Sharma and Swami (2014) segment shoppers in a northern city of India in terms of their shopping motives for shopping at hypermarkets and traditional stores into utilitarians (motivated by functional benefits such as price and variety of products), maximisers (seekers of functional as well as recreational benefit), browsers (high on social motivation) and enthusiasts, who were high on all dimensions of shopping motivation.

Jamal *et al.* (2006) segmented Qatary grocery consumers based on multiple shopping motivations into: (1) socialising; (2) disloyal; (3) independent perfectionist; (4) escapist; (5) apathetic; and (6) budget-conscious. A study on female consumers in Greater China (China, Hong Kong and Taiwan) (Tam and Tai 1998) identified four distinct segments based on lifestyle traits: conventional females, contemporary females, searching singles and followers. The conventional females were the largest segment (41%) who adhered strongly to traditional values of filial piety and value family lives more than work.

In Malaysia, (Yue-Teng, Osman and Yin-Fah 2011) identified three groups of student shoppers based on psychographic statements. The largest group (more than half of respondents) was economic shoppers, who were mostly attracted to careful shopping (bargain, comparison). The second largest group (convenience shoppers) provided the lowest mean score for all dimensions except choice optimization. These convenience shoppers were attracted to finding the right products in the least amount of time. The smallest group (addictive shoppers) provided the highest score for most dimensions and were driven most by the shopping motives of anticipated utility and affiliation. Chamhuri and Batt (2013b) identified two clusters (modern and traditional shoppers) based on the purchase of fresh meat and three clusters (modern, transient and traditional shoppers) based on the purchase of fresh produce in Malaysia.

Research on consumer segmentation in Indonesia is still very limited. The increasing competition between traditional and modern food retailers provides a need to identify appropriate segments among Indonesian consumers in relation to their preferences for both retail formats.

3.6 Multiple store patronage (cross-shopping)

To assess the determinants of multiple store patronage (cross-shopping) behaviour, this chapter reviews the retail store patronage, retail store choice and store loyalty literature. According to Bodkin and Sewell (2012), previous studies have assessed the phenomenon of cross-shopping behaviour from variety of aspects including store switching, store choice, multi-store purchasing and consumer promiscuity.

Retail store patronage behaviour has explored the relative importance of store patronage motives and developed a shopper typology (Jayasankaraprasad and Kathyayani 2014). Shopping motives are a significant determinant of store choice and store patronage. Store

patronage involves several related considerations, such as how many stores visited to buy a product (Luceri and Latusi 2012).

Retail patronage can be viewed as retail loyalty, which is when consumers repeat their purchases in a store over a period of time (Jones and Sasser 1995, cited in Jayasankaraparasad and Kathyayani 2014). One of the major indicators used in measuring customer loyalty is the set of alternative retail stores explored by a customer (Burford *et al.* 1971, cited in Luceri and Latusi 2012). According to East (1997, p. 235), consumer loyalty is defined as "a sequence of purchases at the same store, the proportion of purchase or expenditure that a given store takes in the retail category, the repeat patronage frequency, or the duration of patronage (store allegiance)". The measure used in most studies, such as Maruyama and Wu (2014a), is the proportion of expenditure devoted to the store most frequently used.

It is considered more valuable for retail stores to focus their strategies on retaining existing consumers rather than attracting new ones, as retaining consumers is relatively inexpensive (Blackwell *et al.* 2007). The value of customer loyalty is widely recognized, as loyal customers are usually less price sensitive and less responsive to advances from competing offers (Jensen 2011). In the grocery sector, loyalty is becoming more difficult to secure because competition is intensifying.

In the context of modern food retailer diffusion, where modern retailers first emerge in urban areas, Varshney and Goyal (2005) (cited in Zameer and Mukherjee 2011) describe 'out-shopping' as the activities that consumers from smaller urban settlements undertake when they visit larger urban centres to get a better deal from modern shopping malls. Zameer and Mukherjee (2011) then extended the concept of 'out-shopping' to include the switching of consumers from traditional food and grocery stores to modern retailers. In other words, Zameer and Mukherjee (2011) focused on the factors that influence consumers in selecting a place to purchase food between two different retail formats (traditional kirana stores and modern retailers). Riecken and Yavas (1988, cited in Ganesh, Reynolds and Luckett 2007, p. 371) suggested that "cross-shopping was characterized by shoppers who change their retail patronage patterns and turn to other retail formats to fulfil shopping needs which have traditionally been met by a preferred and well patronised retail format".

Recent research, however, has shown that the availability of modern formats, in addition to existing traditional food stores, has encouraged many consumers to use both formats regularly, instead of totally switching from the traditional to the modern format. According

to Bustos-Reyes and Gonzales-Benito (2008) (cited in Luceri and Latusi 2012), the proliferation of retail formats and a growing heterogeneity in consumer needs enhances consumer's multiple store patronage (cross-shopping behaviour). Similarly, Skallerud, Korneliussen and Olsen (2009) and Carpenter and Moore (2006) suggested that the mix of retail stores that consumers use to satisfy different shopping needs may lead to the development of a complex multiple store patronage referred to as cross-shopping.

With the proliferation of modern retail formats which put pressure on the pre-existing traditional formats, the study of cross-shopping behaviour seems to offer more insights than store patronage. According to Bodkin and Sewell (2012), store patronage is a criterion to understand the factors influencing store selection, while cross-shopping is a criterion to evaluate consumers' decision to purchase from multiple stores.

The majority of consumers today exhibit cross-shopping behaviour when they purchase food, as no single store is considered the best to cater to all consumers' needs (Prasad and Aryasri 2011). If cross-shopping is conducted in a single shopping trip, when "consumers go to a central location to purchase more than one good or service, this refers to multi-purpose shopping" (Krider and Weinberg 2000, p.2). Other definition suggests that cross-shopping is occurring when "a single consumer patronises multiple types of retail outlets which carry the same broad lines of merchandise" (Cort and Domiguez 1977, p. 187, cited in Bodkin and Sewell 2012). Hansen (2003, cited in Jayasankaraprasad 2014) suggests that cross-shopping can be differentiated into two categories; intertype (between different types of retailers) and intratype (between the same type of retailers). In this study, cross-shopping is defined as "consumers shopping regularly at each of two or more food retail stores" (Jayasankaraprasad and Kathyayani 2014, p. 80).

Gijsbrechts, Campo and Nisol (2008) suggested that multiple-store patronage is not only encouraged by cherry picking preference (where consumers purchase among different stores to take advantage from seasonal price discounts), but may also be based on careful evaluation of specific store attributes. One of their argument is that the stability and regularity of multiple-store shopping does not align with cherry picking, and the high percentage of consumers (75%) who use multiple stores on a regular basis is well below the 10-35% of consumers who made decisions to purchase based on temporary sales promotions. Similarly, Krider and Weinberg (2000) suggested that many consumers plan their regular shopping trips based on their knowledge of an overall relative price for a shopping basket of goods, rather than advertised price specials.

According to Gijsbrechts, Campo and Nisol (2008), consumers may regularly visit many stores to get the benefit of 'fixed cost complementarity' or 'category-preference complementarity'. To get the advantage of 'fixed cost complementarity', consumers visit high and low fixed cost stores in turn to balance transportation and holding costs against acquisition costs. To get the advantage of 'category-preference complementarity', consumers may visit different stores which offer best value for money for different product categories on a combined shopping trip. Both types of consumer multiple-store patronage enhance a change from competing for the 'share-of-customers' to the 'share-of-wallet' among food retail stores (Gijsbrechts, Campo and Nisol 2008, p. 5).

Similarly, Maruyama and Wu (2014a) also identified that it is important to consider benefits and costs in studying multiple store patronage because visiting multiple stores not only involves benefits (such as better value for money and product range) but also involves some costs (such as the effort needed to identify different sets of store attributes).

Cross-shopping (multiple store patronage) has been identified as one of the most important trends in food shopping today. Consumers who shop in only one grocery store (exclusive loyalty) have become the exception rather than the rule (Uncles and Kwok 2009; Gijsbrechts, Campo and Nisol 2008; Farhangmehr, Marques and Silva 2001). In India, Prasad and Aryasri (2011) found that the majority of consumers are opting to patronise more than one store because certain retailers fulfil certain needs, and these needs depend on shopping motives, shopping trip types and shopping situations.

Multi-store patronage means that consumers exhibit split loyalty, but most of the time they still have a major store which captures most of their purchases, and this major store is relatively stable (East *et al.* 2000, cited in Uncles and Kwok 2009). This loyalty is related to the routine nature of purchasing food and groceries, which means that consumers will minimize their cognitive effort in making decisions. They generally refer to their past experiences to assist with the purchase decision. Therefore, the food purchase patterns of most consumers are relatively steady (Raijas and Tuunainen 2001, cited in Picot-Coupey *et al.* 2009).

In maintaining a relationship with their major store, consumers anticipate some financial advantage and use less cognitive effort because they are familiar with store-specific feature of assortments, lay-out and prices (Rhee and Bell 2002). Therefore, consumers tend to shop at one main store and one or more additional stores. In Finland, for instance, consumers use hypermarkets as their primary channel and supermarkets as their secondary channels for

grocery shopping (Koistinen and Järvinen 2009). As supplementary choices, they frequently use neighbourhood stores and convenience stores close to home.

In the first stage in the development of modern food retailers (hypermarkets/supermarkets) in developing countries, consumers generally exhibit selective adoption behaviour (Hino 2010; Goldman, Ramaswami and Krider 2002). Evidence from many countries has shown that the main shopping patterns exhibited by consumers is to divide their food and grocery purchases between modern retailers (hypermarkets, supermarkets) for packaged and processed foods, and traditional retailers for fresh foods (Hino 2014).

Regarding the cross-shopping phenomenon, Hino (2014) identified two research streams: (1) multiple-format shopping, which focuses on consumers' socio-demographics and format outputs; and (2) selective-use, which characterizes consumers' shopping patterns in non-western economies and focuses on cultural values associated with eating habits such as the type of food and use of fresh ingredients.

The second research stream on selective use demonstrates that modern retailers will capture the market from traditional retailers for one food category at a time (processed food first and fresh food later). In the first stage of supermarket diffusion, consumers start patronising modern retailers for dry and processed food, but not for fresh food. Supporting the view of consumers' selective adoption and the three step model of supermarket diffusion, Joseph and Soundararajan (2009) claimed that consumers shop at both traditional and modern food stores, with the spending varying among products.

3.7 Summary

The importance of food shopping in the field of consumer behaviour has been identified in previous research such as Elijah, Okoruwa and Ajani (2011), which is related to the significance role of food as human basic needs, and, with reference to the developing countries, to the fact that large proportion of household expenditure is allocated for food. For this study, food shopping provides a base to explore consumers' cross-shopping behaviour between traditional and modern food retail stores. The slow growth in modern retail diffusion for food compared to non-food products enhances the need to identify, from the consumers' perspective, preferred retail store attributes and the presence of any segments that may exist among Indonesian consumers.

Previous research has identified a common phenomenon of multi-store patronage (cross-shopping) in food shopping, which is partly caused by the proliferation of different retail formats. In the context of developing countries such as Indonesia, the expansion of modern retailers' has increased retail market competition, and this calls for more insights into consumers' cross-shopping behaviour between modern and pre-existing food retailers.

The literature has particularly found that consumers cross-shop to fulfil different needs based on situational factors (bulk versus urgent, routine versus festive) and different product categories. This study will add to the literature on cross-shopping by comparing product categories in relation to the three step model of modern food retailer diffusion (processed food, semi-processed food and fresh food).

Other than situational factors and product categories, consumers' socio-demographic characteristics have also been identified as determinants of food store choice. While some of the literature, suggests that socio-demographic factors are non-influential, this study prefers to include socio-demographic factors since much of the prior research in developing countries has identified significant differences in purchasing behaviour.

Segmenting consumers based on socio-demographic and geographic variables is important in the context of this study. According to Hino (2010) the diffusion of supermarkets in developing countries falls into three main components: geographic, socioeconomic and diffusion by product category. Tam and Tai (1998) suggested that future research in market segmentation needs to emphasize product-specific attitudes and behaviour to gain a deeper understanding about consumers regarding their specific product categories.

A range of store and product attributes have also been identified in previous research as influential factors in selecting a retail food store. These include: functional, social and entertainment outcomes. The attributes established or recognized in a Western context do not necessarily explain consumers' perspectives in developing countries. Romling and Qaim (2011) suggested that unlike China and India, for which more research on consumer behaviour is available, Indonesia is a Muslim majority country, which may influence consumer lifestyle and preferences for food shopping. For example, halal attributes are expected to be more significant in influencing Indonesian consumers' decision to purchase food. The limited research on Indonesian consumers as well as the potential influence of culture/religion on consumer cross-shopping behaviour suggest an exploratory study.

The next chapter will outline the selection and justification for the research methods selected for this study.

CHAPTER 4

RESEARCH APPROACH

4.1 Introduction

With limited reference material available that discusses food store choice in general and cross-shopping behaviour involving modern and traditional retailers more specifically, this study applied an exploratory approach. The study adopted a two stage sequential exploratory strategy that required a preliminary qualitative stage (focus group discussions) to be undertaken followed by a more comprehensive quantitative stage (face-to-face consumer survey).

In this chapter, the research paradigm, which informs the methodological choices made in this study, will be discussed (Section 4.2). This is followed by an explanation of the exploratory research design for the qualitative phase (Section 4.3) which discusses the structure of the interview guide, sample selection, preparation for the focus groups, the conduct of the focus groups and the transcription procedure. The methodology for the quantitative stage will be discussed in Chapter 6.

4.2 Research paradigm

A research paradigm functions as a mindset for the researcher, providing a basis for the methods and strategies selected in the study (Saunders, Lewis and Thornhill 2009). Two basic and previously competitive approaches to research philosophy are positivism and interpretivism (Saunders, Lewis and Thornhill 2009). Teddlie and Tashakkori (2009) identify positivism (or post-positivism) and constructivism as two contrasting methodological communities.

Positivism refers to the process of using rigorous empirical techniques to discover generalizable explanations. In other words, positivism holds the view that only information derived from scientific methods should be used in decision making (Blackwell *et al.* 2007). The strengths of positivism, with its quantitative strategy, include the possibilities for quantitative predictions and credible assessment of cause-and-effect relationships (Johnson

and Onwuegbuzie 2004). 'The goals of positivism approach in consumer behaviour research are twofold: (1) to understand and predict consumer behaviour; and (2) to discover cause-and-effect relationships which control persuasion and/or education' (Blackwell *et al.* 2007, p. 16).

Until recently, most of journal articles published on the topic of consumer behaviour have applied a positivist approach (Blackwell *et al.* 2007). As science involves confirmation and falsification, this calls for objective measurement. Yet in the area of consumer behaviour, many researchers' decisions are developed during the research process. Furthermore, the researcher is a human being who is often involved in different communities and therefore subject to different behavioural predispositions (Johnson and Onwuegbuzie 2004).

Post-modernism, which received researchers' attention in the 1980s, is a different approach to positivism (Blackwell *et al.* 2007). This approach also known as constructivism, mostly deals with exploratory research objectives where the validity relies on trustworthiness, credibility and transferability (Teddlie and Tashakkori 2009). The post-modernist approach uses qualitative methods to study consumer behaviour such as information about how consumers purchase and use a product (Blackwell *et al.* 2007). The open nature of qualitative research instruments captures a broader range of responses than the fixed-response questions used in quantitative surveys, which may provide researchers with a deeper understanding of consumer decisions (Poulos 2001).

In qualitative research, the issue of validity can be addressed by the researcher confirming the data recorded during an interview directly with the respondent. However, various characteristics of the researcher can lead to the issue of subjectivity because of researcher bias (Whiteley 2002). This type of research is considered researcher-dependent, because interpretation is a subjective view until corroborated by other studies (Babin and Harris 2014). Other issues associated with qualitative research include its restriction to small samples because this type of research requires longer time to process the data (Poulos 2001). On the other hand, quantitative research claims to test theories deductively, thus aiming to protect against bias and focus on the generalizability of research results (Creswell 2009).

Selecting a pragmatic and balanced (pluralist) perspective can support discussions among different research paradigm and generate ideas about how research approaches can be used together to benefit a research study (Johnson and Onwuegbuzie 2004). Pragmatism holds the opinion that researchers should focus their attention on the research problem and then apply

the most suitable approach for the problem, without committing to specific qualitative or quantitative assumptions (Creswell 2009).

Harrison and Reilly (2011) proposed that the strengths of a mixed methodology is that the qualitative and quantitative approaches complement each other in answering different types of research questions. They believed that quantitative research was more suitable to answer 'who', 'where', 'how many', and 'how much' questions, while qualitative research was more suitable for answering 'why' and 'how' questions. Woodruff (2003), cited in Harrison and Reilly (2011), pointed out that mixed methods are encouraged in marketing research because this approach improves the rigour of the research study.

The objectives of this study are: (1) to describe consumer cross-shopping habits between traditional and modern food retail stores; (2) to examine the determinants of cross-shopping behaviour among traditional and modern food retail stores and (3) to examine whether there is a difference in the determinants of cross-shopping behaviour between major food product categories (dry foods, fresh produce and fresh chicken meat) and whether the determinants of retail shopping behaviour are consistent across food product categories.

Creswell (2009) noted that pragmatists agree that research always occurs in social, historical, political and other contexts, where mixed methods may include a postmodern turn that reflects social justice and political aims. This pragmatist assumption is justified for this study where, typical of developing countries, competition between traditional and modern food retailers is influenced by political decisions. Consumers' acceptance of large-scale modern retailers is also influenced by socio-demographic conditions and cultural preferences.

In the first stage (qualitative), this study aims to explore consumer food shopping behaviour. In the later stages (quantitative stage in this study), however, the results need to be inspected to determine whether they are trustworthy and defensible. As the outcome of this study is expected to have policy implications, it also needs to be generalizable to the general population. Thus, a balanced (mixed methods) approach is the most appropriate choice for this study.

Six alternative strategies for mixed methods studies are sequential explanatory design, sequential exploratory design, sequential transformative strategy, concurrent triangulation strategy, concurrent embedded strategy and concurrent transformative strategy (Creswell 2009). Creswell (2009) suggested that the concurrent triangulation approach (collecting both qualitative and quantitative data concurrently) is the design most frequently used to reduce

the disadvantages in one method with advantages from other methods. According to Harrison and Reilly (2011), exploratory designs are suitable when the variables under study are unknown or when there is need to develop a research instrument. Similarly, Creswell (2009) suggests that the sequential exploratory strategy (collecting qualitative data followed by quantitative data) may be the best option for exploring a phenomenon.

Based on a review by (Harrison and Reilly 2011) of 2,166 mixed method publications in nine important marketing journals between 2003 and 2009, most of them (79%) implemented sequential procedures, while and 19% implemented concurrent procedures. Furthermore, Harrison and Reilly (2011) noted that sequential designs contain both exploratory and explanatory design elements. In the exploratory design, the researcher first collects and analyses qualitative data, then conducts the quantitative stage based on the findings of the qualitative stage. On the other hand, in explanatory designs, the researcher first collects and analyses quantitative data, then conducts a qualitative stage to gain a better understanding of the quantitative findings.

According to Gofton (1997), qualitative research can be used to gather statements and responses to be further explored in the quantitative stage of the research study. He argued that in consumer research, the qualitative stage can draw up a list of consumer perceptions, behaviours or patterns of product usage that can then be incorporated into questions or measurement scales used in the quantitative stage. Poulos (2001) suggested that this qualitative-quantitative (exploratory) sequence can support content validity due to the exploration of an adequate range of attributes in a particular area of research.

Due to the robustness of this exploratory design, marketers more often conduct consumer research using this design, where concepts (such as promotion strategy) are developed from the qualitative stage and then subsequently tested empirically through a quantitative stage to estimate the extent to which consumers will react positively toward them (Schiffman *et al.* 2011).

In the context of food shopping, an exploratory approach was also justified on the basis that the extant findings on store choice are tied to specific contexts and in many cases cannot explain general store choice behaviours, particularly in the grocery market (Skallerud, Korneliussen and Olsen 2009). Furthermore, the literature on the topic of cross-shopping behaviour is sporadic and the research findings unequivocal (Skallerud, Korneliussen and Olsen 2009; Carpenter and Moore 2006).

Based on these considerations, a two-stage sequential exploratory research strategy was adopted for this study. In the first phase, the researcher conducted qualitative data collection and analysis to explore a range of determinants of consumers' cross-shopping behaviour. This was subsequently followed by a quantitative data collection and analysis (Figure 4.1).

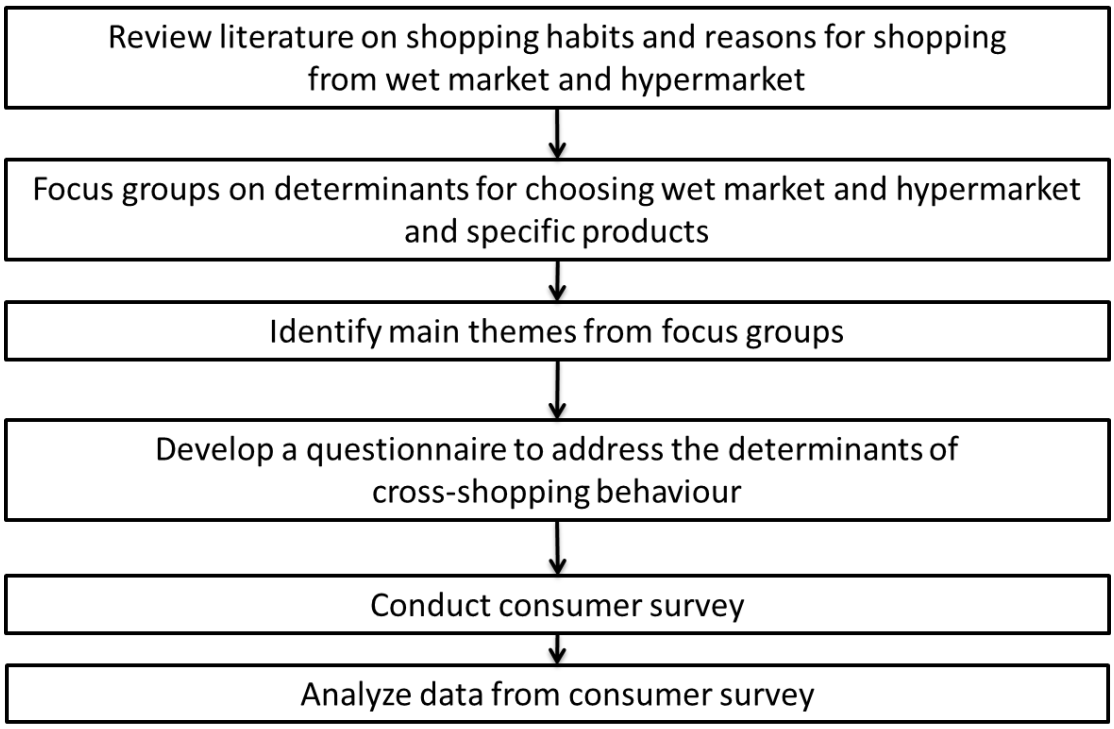


Figure 4.1: The mixed-method sequential research design Research design: Qualitative research method

The credibility of qualitative enquiry depends on belief in the phenomenological paradigm, which is a fundamental appreciation of naturalistic approach, qualitative methods and inductive analysis (Patton 1980, cited in Whiteley 2002). The qualitative enquiry is considered highly appropriate where little is known about a particular phenomenon and when the intention of the research is to understand motivations, attitudes, or cultural patterns (Marsland *et al.* 2001). For this study, little is known about the cross-shopping phenomenon and what is behind the cross-shopping and selective adoption behaviour of Indonesian consumers.

Babin and Harris (2014) suggested that in the field of consumer behaviour, some research questions naturally fit well with interpretive research, especially when environmental factors such as culture shape behaviour. They explained that when studying consumers, interpretive researchers seek to explain the inner meanings and motivations associated with specific

consumption experiences. This means that these researchers are focused more on interpreting meaning than analysing data. This view supports the selection of interpretive research at the first stage of the current study.

The qualitative stage aims to gain a deeper insight on a social phenomenon through analysing the experiences of individuals or groups and by analysing their communication (Flick 2007). Since the 1990s, consumer research has moved from a strong tendency to quantitative approaches toward the application of qualitative approaches (Stokes and Bergin 2006; Garrison *et al.* 1999). 'Within qualitative research, focus groups are frequently used at the expense of individual in-depth interviews' (Stokes and Bergin 2006, p. 1).

Qualitative research tools include case analyses, surveys, focus group discussions, and other means, such as observation, by which responses are collected in a relatively flexible manner (Babin and Harris 2014; Blackwell *et al.* 2007). In other words, these methods allow consumers to respond in their own words (Babin and Harris 2014).

Comparison between focus groups and in-depth interviews shows that each of these qualitative tools has its own strengths. Stokes and Bergin (2006, p. 35) conducted a parallel consumer research applying both focus groups and in-depth interviews, concluding that 'each of the qualitative research methods exhibits certain strengths and weaknesses: individual in-depth interviews are more applicable for conditions where there are specific points that need detailed insights from the consumer's perspective, while focus groups are more suited to exploratory topics'. This view supports the selection of focus groups to explore cross-shopping behaviour in this study.

Focus groups 'encourage a range of responses which provide a greater understanding of the attitudes, behaviour, opinions or perceptions of participants on the research issues' (Hennink 2007 p. 6, cited in Liamputtong 2011). Focus groups also offer an in-depth understanding of consumers' perspectives and enable the researcher to capture the subjective aspects of a study (Edmunds 1999). This provides further justification for the use of focus groups, as the preliminary research aimed to explore the attitudes, perceptions and motivations behind the cross-shopping behaviours of Indonesian consumers between modern and traditional retail formats.

The popularity of focus groups is partly related to some doubts about the accuracy of close-ended questions, where responses are strictly limited and therefore any data could be influenced by the interviewer or by omission. Carlsen and Glenton (2011) found that during

the period between 1998 and 2008, the number of research papers using focus groups that were published in health journals had increased significantly.

Researchers have used focus groups as a strategy for understanding attitudes and opinions since 1926 (McLafferty 2004; Garrison *et al.* 1999). One simple definition of a focus group is an informal communication among a group of participants about a selected theme (Wilkinson 2004, cited in Liamputtong 2011). It can also be defined as '...a group of individuals selected and assembled by researchers to discuss and comment upon, from personal experience, the topic that is the subject of the research' (Gibbs 1997, cited in Stokes and Bergin 2006 p. 27).

Focus groups have been shown to be useful in gaining insights into consumer food purchase behaviour (Barrios *et al.* 2008, cited in Van Wezemael *et al.* 2010), and have been applied extensively in shopping behaviour research (Kirkup *et al.* 2004). In a sequential exploratory research study, focus groups have been used to develop items to be used in structured questionnaires (Flick 2007; Schroder and McEachern 2005).

In this study, the exploratory interviews (focus group discussions) will clarify the determinants of store patronage chosen to be included, as well as being used to identify the appropriate product categories, supporting the subsequent design of the survey instrument (quantitative consumer survey) to be used in the next stage.

Researchers have often opted for focus group discussions to save time and money by interviewing a number of people at a time. However, group discussions offer a number of other advantages, such as: (1) allowing the participants to share their opinions spontaneously in a way that is not structured according to the researchers' bias (Butler 1996, cited in Sim 2011; Bertrand, Brown and Ward 1992); (2) provide a deep and differentiated characterization of how the population feels on a topic and the reasons behind these feelings (Vicsek 2010; Bertrand, Brown and Ward 1992); (3) produce detailed responses that are deeply embedded in the participants' own situations (as artificiality in the responses is minimal, this provides a specific credibility not found in conventional survey research; (Stewart, Shamdasani and Rook 2007); (4) enable synergistic effects or the revelation of unexpected findings (Malhotra 2007, cited in Wei-Chen 2011); and (5) provide a comfortable environment in which respondents can express their opinions because they feel that they can share the burden of answering questions (Vaughn *et al.* 1996, cited in Sim 2011).

Another advantage of focus group interviews, in contrast to other qualitative methods, is that focus groups enable the researcher to take 'second-stage sampling' based on issues that emerge from the first group discussion to improve the rigour of the analysis (Flick 2007). Exploratory findings from one focus group might lead to a follow-up inquiry, or additional groups may be added based on an evaluation of earlier focus group findings (Fern 2001).

4.2.1 Preliminary research objectives

As mentioned in Chapter 1, the objectives of this study are to identify: (1) how consumers divide their shopping between traditional wet markets and modern retail stores; (2) the determinants of cross-shopping behaviour for traditional wet markets and modern retail stores; and (3) whether the determinants of retail shopping behaviour are consistent across food product categories (dry goods, fresh meat, and fresh produce).

With limited information available on cross-shopping behaviour in Indonesia, the objectives of this preliminary study are to gain insights into: (1) general food shopping habits; (2) consumers' perceptions of traditional and modern retailers; (3) cross-shopping behaviour involving traditional markets and modern retailers; and (4) shopping habits associated with purchases within the three product categories under study (cooking oil, chicken, and kangkong).

The first, second, and third objectives explore how consumers divide their purchases (cross-shop) among the many types of food retailers, with the focus on comparing traditional wet markets with hypermarkets and supermarkets. Previous research by the Centre for Policy and Implementation Studies (1994, cited in Suryadarma *et al.* 2010) found that Indonesian consumers purchase most of their fresh food in wet markets, while they purchase processed and non-food products from modern retailers. Indiastuty (2006) showed that Indonesian consumers prefer the traditional markets because of more affordable prices, while modern markets were chosen for service and product variety. The competitive advantage of traditional markets comes from the low price and freshness, while supermarkets provide a more comfortable and clean shopping environment (Suryadarma *et al.* 2010).

The fourth objective explores consumers' cross-shopping behaviour for specific product categories, aiming to discern whether the determinants of retail shopping behaviour were consistent across food product categories (dry goods, meat, and fresh produce). According to Skallerud, Korneliussen and Olsen (2009, p. 181), consumers' cross-shopping behaviour 'must be studied for a specific product category to assess the consistency of the predictor

variables. If cross-shopping behaviour is not found within the most narrowly defined level of product hierarchy, it is unlikely to be found across product categories'.

The product category choices were based on the literature on supermarket penetration in developing countries. According to Reardon, Henson and Gulati (2010), supermarkets are competitive in processed foods first (dry and packaged items such as rice and cooking oils), then into semi-processed foods (dairy, chicken, beef, and fruit), and then finally into fresh vegetables. Based on these stages of diffusion by modern food retailers, cooking oil was selected to represent the processed/dry food category, chicken for the semi-processed category and kangkong for the fresh vegetable category.

Initially, rice was chosen to represent the dry food category because rice is the staple food for the majority of Indonesians. However, the findings from the first five focus groups revealed that many participants received their rice supply from family rice fields in West Sumatra. This result suggested that it would be appropriate to replace rice with another basic food item that all consumers could be expected to purchase. Cooking oil was therefore selected to represent the dry food category. Consequently, additional focus groups were conducted to explore shopping behaviour related to cooking oil.

Another justification for selecting cooking oil and chicken meat is that these two food items are increasing in consumption as a result of the westernization of diets (increased meats, fats and sugar). According to Hawkes (2010), trade liberalization has increased the availability of vegetable oils, chicken meat, and highly processed food and has lowered their prices. This has resulted in an increase in the consumption of soya bean and palm oil relative to other oils, chicken relative to beef, and branded and non-traditional highly processed foods relative to non-branded, traditional foods.

In terms of meat consumption, the proportion of households consuming meat increased from 76% in 1993 to 91% in 2007 (Romling and Qaim 2011). However, per capita meat consumption in Indonesia is low compared to other countries in Asia, including those with comparable incomes and countries with similar Islamic traditions (Fabiosa 2005). Chicken meat was selected to represent the fresh meat category because chicken meat is the main source of animal protein for Indonesians and represents 84% of total meat consumption. Although consumption is increasing every year, consumption was just 3.9 kg per person per year, well below that in Vietnam (6.1 kg per person per year) or Malaysia (37.3 kg per person per year) (The Poultry Site 2010). Furthermore, significant increases in the price of

beef are decreasing demand and forcing many consumers to substitute their beef consumption with broiler chicken (Ilham 2009).

Kangkong was selected to represent the fresh vegetable category as it is one of the most popular green leafy vegetables in Indonesia. According to Arsil (2013), kangkong is one of five food products referred to by consumers as local food, together with rice, corn, cassava and spinach. Kangkong (*Ipomoea aquatica*) is grown in most parts of Asia (Tacio 2009), where it is also known as water spinach (Oomen and Grubben 1978). There are two main cultivar groups of kangkong: (1) the upland variety (var. *reptans*), which is cultivated on dry land, and (2) the lowland variety (var. *aquatica*), which is grown in water. Both types are important vegetables in Indonesia and other Southeast Asian countries (Tacio 2009; Oomen and Grubben 1978). These two types of kangkong (known in Indonesia as water kangkong and ground kangkong) were included in the interview guide to identify consumers' preferred place of purchase.

4.2.2 Structured interview content

To ensure that the preliminary research objectives were adequately addressed (Dilorio *et al.* 1994, cited in McLafferty 2004), an interview guide was developed for this study. According to Liamputtong (2011), an interview guide is a general outline that includes potential questions that the moderator might ask during the group discussion, and is considered one of the critical components in determining the success of a focus group.

The interview guide for this study was developed based on the related literature on consumer shopping among traditional markets and modern retailers in Indonesia and other countries (e.g. Kingry *et al.* 1990, cited in McLafferty 2004) . The outline starts with simple, general questions, progressing to specific, more complex questions in order to encourage participation from all members.

The interview guide was drafted in English and then translated into Indonesian. Back-translation is a well-known method for making sure the questions retain the closest possible meaning in another language (Van der Velde, Jansen and Anderson 2004). The procedure for back-translation by Warwick and Lininger (1975, cited in Iarossi 2006) was followed. Firstly, the interview guide was translated from English to Indonesian by the researcher, then another Indonesian student translated it back into English. The two versions of the interview guides were then compared and any inconsistencies corrected. The pilot focus group

discussion was conducted in Perth on November 2011. The participants were recruited from the researcher's network, mainly Indonesian housewives living in Perth.

As additional discussions were needed for the dry food category (as rice had to be replaced with cooking oil), there were two series of focus groups in this study. For the first five focus groups, the interview guide was divided into two sessions (please refer to Appendix A). The first session was related to the first and second research objectives, while the second session was related to the third research objective (see Table 4.1). For the additional four focus groups, only one session was held to identify shopping habits associated with the purchase of cooking oil (please refer to Appendix B).

In the first session, discussions centred around a number of questions about the food retailer most often used to purchase the food ingredients that would be cooked and consumed at home. The discussions also addressed alternative food retailers, frequency of purchase, mode of transport, and the types of retailers mainly used to purchase dry goods, fresh vegetables, and fresh meat. Topics included the consumers' likes and dislikes for wet markets and hypermarkets, while cross-shopping topics covered specific products that were purchased from certain retailers, the number of wet markets and hypermarkets used, and participants' reasons for choosing a certain type of retailer over another.

Table 4.1: Topics of questions for preliminary study

Research objectives	Session	Topic
First five focus groups (December 2011)		
Identify general food shopping habits	1	General food shopping habits
identify consumers' perceptions of wet markets and hypermarkets and identify cross-shopping behaviour among wet markets and modern retailers	1	Consumers' perceptions of wet markets and hypermarkets (likes and dislikes about both retail formats)
	2	Cross-shopping behaviour among wet markets and hypermarkets
Identify shopping habits associated with the purchase of three product categories	2	Shopping habit associated with the purchase of rice, kangkong and chicken
Additional four focus groups (September 2012)		
identify shopping habits associated with the purchase of cooking oil	1	Shopping habits associated with the purchase of cooking oil

In the second session, the topic was the purchase of rice, kangkong, and chicken. Questions included frequency and quantity of purchase, product type and packaging, reasons for choosing certain types of product, the main retailer used for each product, and reasons for selecting preferred retailers. The additional four focus groups covered questions relating to the purchase of cooking oil (see Table 4.2).

Table 4.2: Questions for selected product category

Rice	Chicken	Kangkong	Cooking oil
Frequency of purchase	Frequency of purchase	Frequency of purchase	Frequency of purchase
Type of rice purchased	Broiler chicken or free-range chicken	Water kangkong or ground kangkong	Packaging of cooking oil
Reasons for selecting	Reasons for selecting	Reasons for selecting	Reasons for selecting
quantity purchased	Live chicken or dressed chicken	quantity purchased	quantity purchased
Packaging of the rice	Reasons for choice	Pre-packed or loose kangkong	Brand or non-brand cooking oil
Primary retailer for rice purchases	Whole chicken or portion	Primary retailers for purchasing kangkong	Reasons for choice
Reasons for choosing the retailer	Reasons for choice	Reasons for choosing the retailer	If purchasing branded cooking oil, what brand(s)
Other retailers used to purchase rice	If portions, what portions	Other retailers used to purchase kangkong	Main retailer to purchase cooking oil
Reasons for choosing other retailers	Quantity purchased	Reasons for choosing other retailers	Reasons for choosing the retailer
	Packaging of the chicken		Other retailers used to purchase cooking oil
	Main retailers for chicken		Reasons for choosing other retailers
	Reasons to choose the main retailer		
	Other retailers to purchase chicken		
	Reasons for choosing other retailers		
	Purchase cold/frozen chicken or not		
	If purchasing cold/frozen chicken, where and how often		

4.2.3 Sample selection

In the conduct of focus group discussions, it is not unusual to use convenience samples. Although the focus group results cannot be readily applied to the population, due to the limited number of participants and the lack of representativeness (Van Wezemael *et al.* 2010; Bertrand, Brown and Ward 1992), the strength of the focus group lies in evaluating phenomena that exist in the target population and providing a deep and meaningful description of these phenomena (Vicsek 2010). According to Flick (2007), such sampling capitalises on the presence of any 'outliers' and seeks to incorporate the opinions of the participants rather than to dismiss them. The focus is not the proportion of such individuals in the population, but rather the insights that can be gathered about certain phenomena through including these exceptions.

The quality of a qualitative study depends on the breadth of the data collected. This means that a limited sample size can be justified for focus group research because there is a trade-off between the number of focus groups and the depth of the data collected (Carlsen and Glenton 2011). Researchers often prefer to use convenience sampling to select participants for focus groups to save both time and money (Stewart, Shamdasani and Rook 2007). Previous research (Ulvila, Paloviita and Puupponen 2009) has shown that recruiting focus group participants in food stores is very time-consuming – in their study there were many cancellations and no-shows.

According to Schroder and McEachern (2005), a convenience sample is justified for an exploratory study, given the participants are the target market for the product under study. Based on this consideration, participants in the current study were selected on the basis of convenience sampling (Cao *et al.* 2009; Chamhuri and Batt 2009a) and drawn from the social network of the researcher using a snowball sampling technique.

However, convenience sampling does not eliminate the need to consider the characteristics of the focus group samples. Researchers still have to be selective in the sample selection for focus groups to suit the objectives of the research (Stewart, Shamdasani and Rook 2007). Qualitative sampling is generally referred to as involving either 'theoretical' or 'purposive' sampling. Furthermore, the composition of the group has important implications for the outcome of the discussion. Insofar as the researcher has specific research objectives and wishes the group participants to communicate properly, he or she should manage the group composition to improve the probability of achieving the objectives. This may mean ensuring a certain level of homogeneity or heterogeneity within the group, or conducting multiple

focus groups that differ with respect to their composition (Stewart, Shamdasani and Rook 2007). Homogeneity may imply that participants come from a similar culture or possess similar views (Liamputtong 2011), or that they have typical attribute associated the with topic of the focus group (Krueger and Casey 2009; Garrison *et al.* 1999).

Ensuring that participants in a focus group share some similar attributes is not only prudent in terms of research design, but may also encourage discussions on sensitive themes (Bloor *et al.* 2001, cited in Flick 2007). Many researchers prefer homogeneous groups, as individual group members are more confident in voicing their views (Sim 1998). Participants in the same focus group discussion might be of the same gender, age range, ethnicity, and social class (Bloor *et al.* 2002, cited in Chamhuri 2009).

Many types of focus groups have very broadly defined parameters. For such general purposes, recruitment is relatively easy. For example, in many marketing research applications, the group may be defined simply in terms of the user of a particular product or the principal food shopper in a household (Stewart, Shamdasani and Rook 2007).

Some researchers, however, believe that heterogeneous focus groups are generally more effective than homogeneous groups because a variety of skills, perspectives and types of knowledge can be brought to bear on the performance of the task (Stewart, Shamdasani and Rook 2007). An argument or disagreement is expected to unearth the reasons behind different opinions and allow both moderators and participants to clarify their perspectives (Flick 2007).

4.2.4 Preparation for the focus groups

After developing a structured interview guide and sample selection criterion for the focus groups, it was necessary to consider: (1) the number of focus groups to be conducted; (2) the number of participants to include; (3) selection of a moderator to conduct the discussions; and (4) strategies to recruit participants.

The number of focus groups conducted for a study depends on the research complexity and the researcher's interest (Stewart & Shamdasani 1990, cited in Fern 2001; Goldman & McDonald 1987). For most focus group research, three to five focus groups are considered adequate (Stewart & Shamdasani 1990, cited in Fern 2001; Krueger 1988). Fern (2001) suggested that on most occasions, after finishing the fourth discussion, the majority of main attributes (70-80%) should be observed. Garrison *et al.* (1999, p. 431) recommended a

minimum of three focus groups, necessarily qualified by three conditions: '(1) the typical feature of the research; (2) the different level of the participants' involvement to the research theme; and (3) socioeconomic, cultural or regional variety'. The range for focus group numbers suggested or used in previous studies is profiled in Table 4.3.

Table 4.3: Number of focus groups

Number of focus groups suggested or used	Literature
2	Schroder and McEachern (2005)
2 - 8	Fern (2001)
2 or more	Edmunds (1999)
Minimum of 3	Garrison *et al.* (1999)
3 - 4 with each category of individual	Krueger and Casey (2009)
4	Chamhuri (2011); Van Wezemael *et al.* (2010); Monroe, Blalock and Vlosky (1999), cited in Garrison *et al.* (1999)
4 - 6	Davies (2007)
5	Berlin, Lockeretz and Bell (2009)
6	Shaffer, Pierce and Burts (1998), cited in Garrison *et al.* (1999)
12	Sasser 1998, cited in Garrison *et al.* (1999)

'It is uncommon to find a study using only one focus group discussion, therefore it is recommended to set up two or more focus groups, depending on the richness of the subject' (Edmunds 1999, p. 9). Carlsen and Glenton (2011) reviewed more than 200 studies published in health-related journals and found that there was a great deal of variation in the number of focus groups used, ranging from 1 to 96. In these publications, all single-group researchers applied mixed methods, where focus groups were used as a pilot study to develop instruments for the quantitative stage of the research. At the other end of the scale, when the number of focus groups used was ten or more, researchers appeared to be attempting to quantify and thus to generalise their research findings.

Bryman (2004) strongly believes that conducting many focus groups is unnecessary. Similarly, Flick (2007) suggests that conducting more focus groups is not always a better decision, although holding two focus groups with similar characteristics might provide the researcher with more confidence in making claims about patterns in the data. Most of the publications in health-related topics reviewed by Carlsen and Glenton (2011) provided no justification regarding the number of focus groups used in their studies. For the 37 studies

which justified their reason for the total number of focus groups conducted, the main reason was saturation (28), while other reasons were recommendation by the literature (6) or practical reasons (3).

Saturation describes a situation in which a researcher has observed the variety of opinions and noticed that no more new data was gathered (Krueger and Casey 2009, p. 21). Similarly, Bryman (2004) suggested that the researcher should keep conducting group discussions until the participants repeat their statements and limited additional ideas are obtained. Many researchers, however, work on projects that require the total number of focus groups planned to be stated in the proposal before the project starts (Carlsen and Glenton 2011). In these circumstances, Carlsen and Glenton (2011) suggested that the researcher undertake two to five group discussions for each group of participants, then observe the point of saturation as the discussions progress in order to make decisions about the final number of groups required.

Based on the above discussion, this study planned to conduct four focus groups based on the recommended literature and on practical reasons (timeframe). However, the researcher also planned to check the point of saturation as the discussions progressed, to determine the total number of focus groups to be conducted (Krueger and Casey 2009).

Having decided on the number of group discussions to be conducted, the next decision to make is the size of each focus group. The literature provides a range of suggested figures. The most common suggestion is that focus groups should have between 6 and 12 participants, with some studies using groups of up to 20 (Table 4.4).

Table 4.4: Number of participants in a focus group

Number of participants suggested or used	Literature
3 – 5	Monroe, Blalock and Vlosky (1999), cited in Garrison et al. (1999)
4 – 5	Twinn (1998), cited in McLafferty (2004); Sasser 1998, cited in Garrison et al. (1999)
4 – 8	Kitzinger (1996), cited in McLafferty (2004)
6 – 9	Garrison et al. (1999)
7 – 9	Van Wezemael et al. (2010)
6 – 10	Morgan (1998)
8 – 10	Edmunds (1999)
6 – 12	Lichtman (2014); Stewart, Shamdasani and Rook (2007); Fern (2001)
8 - 20	Davies (2007)
10 – 12	Krueger and Casey (2009)
12	Schroder and McEachern (2005)
12 – 20	Merton *et al*. (1990), cited in McLafferty (2004)
15 – 20	Morgan (1997)

The ideal number of focus group participants should provide sufficient variety to enhance the expression of views while giving opportunity for each participant to join the discussion. However, Stewart, Shamdasani and Rook (2007) suggested that when making decisions about group size, researchers should think about how much time is available for each group discussion. Table 4.4 profiles the size of focus groups applied or suggested in the literature.

In making decision on the suitable number of participants in a group, a researcher should be able to balance between the two extremes of, on the one hand, not having enough participants to support a discussion, and, on the other, having so many participants that some do not get opportunity to talk (Morgan 1998). According to Flick (2007), the number of participants who can be readily accorded an equal view in the discussions will depend on the skill of the moderator and the complexity of the topic.

In this study, as the topic of daily food shopping was considered less complex, the researcher planned to invite 10-15 people to each focus group.

The next decision was the selection of a moderator who could facilitate the discussions. According to Liamputtong (2011), the moderator plays a significant role in gathering rich data from the participants. Liamputtong (2011) described the moderator's role as presenting the topic, supporting the discussion, and encouraging and guiding the conversation. According to Edmunds (1999, p. 12), the main role of a moderator is 'to keep participants on track and to ensure that all participants are given the opportunity to present their views and suggestions'. For groups with more participants, greater skill is needed from the moderator to manage the discussions (Williamson 2013).

Some 20 years ago, when focus group research was not so widespread, only professional moderators were available (Krueger 1998b). Today, with appropriate training and having prepared the interview guide, more people are able to conduct focus groups. Researchers can choose an occasional or volunteer moderator (Krueger 1998b) or a professional or amateur moderator (Fern 2001).

An occasional moderator is often a respected member of staff at an organization. The advantage of using this type of moderator is familiarity with the organization. Volunteer moderators are those who are not normally employed as a focus group moderator. This type of moderator can be beneficial when specific backgrounds are needed to connect with the respondents, such as a prescribed language or ethnicity (Krueger 1998b).

Professional moderators specialize in certain areas, for example consumer products. The advantage of using them is their experience and neutrality (Krueger 1998b). Some researchers prefer to use a professional research moderator who has experience in related topics to avoid potential bias, which may arise if the researchers conduct the discussion by themselves (Edmunds 1999). In many fields of research, however, there is a lack of professionally trained moderators with both the experience and background necessary to understand the phenomena being studied (Fern 2001). As Fern (2001) also suggested, another reason for not using a professional moderator is financial constraints, and thus most researchers tend to moderate the groups themselves.

Krueger and Casey (2009) consider the skill of the moderator to be the main consideration in selecting a moderator for focus groups. Among the critical qualities for a moderator are empathy, positive regard (Krueger and Casey 2009), sensitivity, creativity, and confidence (Fern 2001). Another desirable characteristic is that the moderator should be similar to respondents (i.e. should blend in) and should be acceptable. It is an advantage for a moderator to resemble the participants in dress and appearance (Krueger 1988, cited in Fern

2001), and Fern (2001) suggests that the moderator should be selected from a similar population to the focus group participants, even if it means a compromise in terms of some aspects of expertise.

In this study, in order to minimize bias, the researcher did not conduct the focus groups by herself. One consideration was that the researcher is from outside Riau Province and therefore did not speak the local dialect. Another consideration was that most PhD students do not realize that they have absorbed the main ideas about their research topics (95 percent syndrome) and often assume others are also familiar, and therefore they fail to elaborate in sufficient detail when they describe their own research (Evans 1995).

Based on these considerations, an external moderator was considered the best option. The external moderator selected for this study was a female lecturer in English who worked at the Public Islamic University of Sultan Syarif Qasim and the English Training Centre of Riau University, Riau Province. The moderator was chosen based on valuable characteristics such as empathy, sensitivity and confidence, as well as because of her experience and significant awards in public speaking, talk-show moderating and event organizing. She was a local from Riau Province who spoke the local dialect and dressed in a similar manner to the participants.

After selecting the moderator, it was necessary to consider the strategy for recruiting participants. According to Edmunds (1999), recruiting participants for focus groups can be difficult, depending on the type of participant required for the study. However, for some topics, and indeed in this study, the requirements can be very general. The participants in this study were selected because they were the main food shoppers in their households. This descriptor was defined as the person responsible for making food shopping decisions and for doing a large proportion of the food shopping (Domínguez 2007). During the recruitment stage, an attempt was made to maintain some level of homogeneity in terms of age, mainly to create conducive discussions, for in Asia, young people seldom disagree with older or more senior people as it is considered impolite (Davies 2002).

In recruiting participants for focus group research, incentives are recommended (Garrison *et al.* 1999). The kind of incentive is often referred to as a cooperation fee, and can help capture the interest of potential participants (Edmunds 1999). Edmunds (1999) also noted that the incentive is generally is given as a cash payment, but payments may also be offered in other forms such as a gift voucher or promotional items.

Some suggest that money is the most common incentive, for this provides several advantages: its value is immediately recognized by the participants; it is portable; and most importantly, it works (Krueger and Casey 2009; Garrison *et al.* 1999). However, others argue that payment is not appropriate. Vulnerable poor people may try to be included. This can be seen as coercion: forcing participants to take part in research for money (Crigger *et al.* 2001, cited in Liamputtong 2011). However, others prefer that cash payments are made, as this helps to support low-income participants (Liamputtong 2007, cited in Liamputtong 2011).

For this study, some form of cash payment was considered appropriate in order to compensate for any cost involved in attending the focus groups. In addition to this, a non-cash payment was also included to encourage more participants. In the preparation stage, in order to encourage them to get involved, prospective participants were informed about the incentive for taking part in this study. They were also advised of the likely time commitment needed for the discussion. Participants received a cash payment of IDR 50,000 (AUD 5) and an Australian souvenir (koala/kangaroo key holder) for their participation in a full-day focus group. For the half-day focus groups, participants received IDR 25,000 (AUD 2.5) and a souvenir.

4.2.5 Conducting focus groups

The discussions were all conducted by the moderator in Indonesian (*Bahasa Indonesia*) as the national language, based on the interview guide prepared by the researcher. The researcher acted as the co-moderator who took care of the recording equipment. A note taker was also hired to document the discussions.

In this study, the focus groups were conducted as suggested by Bryman and Bell (2003): (1) Introduction: introduce the research unit, structure and objectives of group discussion, conventions such as confidentiality, speak in turns, permission to record; (2) Discussions to cover all topics/questions based on the interview guide; (3) Summing up: thank the participants and reimburse expenses; and (4) lunch or refreshments.

The focus group started with small talk to make participants comfortable while waiting for others to arrive. According to Krueger and Casey (2009), a 5- to 10-minute period of small talk is helpful in creating a warm, friendly environment until enough participants are present. In this research, many participants were late (up to one hour); therefore the researcher used this opportunity to distribute the consent form (Appendix C) for the participants to sign. The participants were given some time to read the consent form, which covered the purpose of

the study, procedures, and confidentiality. Participants were informed that the study had obtained ethics approval from Curtin University and they were then encouraged to ask any questions they had about the process.

After signing the consent form, the researcher also asked the participants to fill out a short questionnaire (Appendix D) that contained a number of socio-demographic questions. Although focus group data is qualitative, obtaining some background information about the participants is useful in interpreting their responses to the focus group discussion and in ensuring that the desired market segments have been adequately captured (Edmunds 1999). As suggested by Krueger and Casey (2009) and Flick (2007), once the introductory session was finished, refreshments were distributed to the participants to show gratitude and encourage a relaxed atmosphere and to promote further conversation within the group.

Most of the participants in this study knew each other. According to Powell *et al.* (1996), pre-formed groups may consist of friends, colleagues, and relatives, who collectively provide a more supportive environment. Previous studies (Rabiee and Thompson 2000; Kitzinger 1994, cited in Chamhuri 2009) also showed that when participants knew each other, they felt more comfortable talking about personal issues and could relate better to each other's comments.

Most of the participants were married women with and without children, so in terms of gender they were homogeneous. However, participants were heterogeneous in terms of education, occupation, ethnicity, and income. Heterogeneous groups are more appropriate where the study aims to capture a wide variety of opinions (Hesse-Biber and Leavy 2010, cited in Liamputtong 2011). Furthermore, some variation is needed to allow contrasting opinions (Krueger and Casey 2009) and produce richer information (Calder 1977, cited in McLafferty 2004).

With the permission of the participants, each session was recorded using a digital voice recorder for subsequent transcription and analysis. Using a digital recorder allows the researcher to directly download the files onto a computer for subsequent transcription (Flick 2007), and this was the method chosen in the current study. These recorders were also valuable in tracking the length of sessions accurately and quickly, and complemented the written notes taken during the discussions. Bertrand *et al.* (1992) recommended that focus group discussions be recorded simultaneously by a reporter who takes notes during the sessions and by a voice recorder (after asking for permission from the participants).

A series of focus groups were organised during December 2011 in Pekanbaru, Riau Province, to cover three products (rice, chicken, and kangkong). After rice was deemed unsuitable, with many participants receiving a free rice supply from a family rice field (see Section 4.3.1 above), additional focus groups were organised to explore the shopping habits associated with the purchase of cooking oil during September 2012.

As planned, this study initially involved four focus groups for the three products. However, new themes continued to emerge in the fourth group, and therefore another focus group was added. This fifth group did not yield any new themes. The focus groups conducted in September covered only one product (cooking oil). In this context, the fourth focus group repeated the previously mentioned themes, so in this instance four focus groups were considered appropriate.

Each group in the first five focus groups consisted of between 7 and 18 participants. There were 7 participants in FG1, 10 participants in FG2 and FG3, 18 participants in FG4, and 17 participants in FG5 (Table 4.5).

Table 4.5: The two series of focus group participants

The first five focus groups		
Focus group	**Participants**	**Venues**
1	7	university classroom
2	10	university mosque
3	10	university meeting room
4	18	moderator's living room
5	17	researcher's living room
Additional four focus groups		
Focus group	**Participants**	**Venues**
1	8	moderator's living room
2	7	moderator's living room
3	6	moderator's living room
4	6	moderator's living room

As previously planned, the researcher initially invited 10-15 participants, because a higher number of people was considered desirable for a less complex topic such as food shopping.

Due to some cancellations and additional participants, the actual number in each group was between 6 and 18. This range, however, was still within that suggested by the literature. The latter four focus groups (for cooking oil) consisted of fewer participants because there were less questions and because the interviews focused on only one product (cooking oil). There were 8 participants in FG1, 7 participants in FG2, 6 participants in FG3, and 6 participants in FG4.

The five focus groups were conducted at different venues. The main consideration for choosing these venues was their close proximity to participants' residence or their place of work and participants' familiarity with them (Krueger 1998b). Other considerations included toilet facilities and a prayer room, as the discussions extended beyond midday. The venues used were a university classroom (FG1), a university mosque (FG2), a university meeting room (FG3), the moderator's living room (FG4), and the researcher's living room (FG5). All of the additional four focus groups were conducted in the moderator's living room because of its proximity to the participants' places of residence.

For the first five focus groups, as the discussions were expected to take about 6 hours, including a one hour break for lunch and prayer, lunchboxes were provided around 12 noon. Most authors suggest that a typical focus group discussion should last for 1.5 to 2 hours (Richards and Morse 2007; Edmunds 1999). In this study, the first series of five focus groups needed to cover two sessions and thus lasted longer about 3 to 3.5 hours excluding the lunch break. For the additional four focus groups, with only one session, the discussions only took about 1 to 2 hours each.

4.2.6 Transcription and theme identification

A recorded conversation (audio or videotaped) is crucial in reporting on the focus group discussions, as it allows the researcher to refer to certain questions and review important aspects of the discussions (Edmunds 1999). The recorded focus group conversations then need to be transcribed to enable subsequent data analysis. Transcription transforms an oral text into a written one, providing a permanent record of the interviews (Stewart *et al.* 2009, cited in Liamputtong 2011).

According to Bertrand, Brown and Ward (1992), there are three types of procedures for recording group discussions on paper: (1) transcribe the whole discussion verbatim from the voice recorder; (2) expand the reporter's notes by comparing them with the voice recorder; and (3) proceed with the transcription based on the reporter's notes only.

Krueger (1998a) classifies the transcription methods into transcript-based analysis, tape-based analysis, note-based analysis and memory-based analysis. Transcript-based analysis is the most rigorous and time-intensive method. In transcript-based analysis, tapes are transcribed and then the researchers use the transcription together with the field notes and debriefing. Tape-based analysis yields an abridged transcript, which is shorter than a typical focus group transcript and used in conjunction with listening to the tape. Note-based transcription focuses on the field notes, so the recorded data is mainly used to confirm certain expressions and the conclusion part of the focus group discussions, while memory-based transcription relies mainly on memory as opposed to electronic recording. In memory-based transcription, the moderator recalls the discussion and prepares an oral report following each focus group.

It is not always desirable or feasible to transcribe the whole of the interview. Focus group research is often more difficult and time-consuming to transcribe than personal interviews because of the number of speakers involved. According to Bryman (2004), the researchers often find it difficult to identify which participant is talking during the session due to the number of people involved. In addition to this, participants occasionally talk to each other. Therefore, transcripts of group discussion often miss sections due to problems with audibility (Bryman 2004). This was also the case with the audio recording for this study, as on occasion the answers were not clearly audible. Even although two audio recorders were positioned at different sides of the group, some answers were still missing due to background noise.

It is recommended by Liamputtong (2011) that the researcher transcribe their own focus group discussions. By doing so, the researcher becomes more familiar with the data. This will help with the further analysis of the data. However, paying someone else to transcribe the focus group interview can be done occasionally.

For this study, the researcher conducted a note-based analysis herself to identify themes based on the key questions in the interview guide. The researcher's notes were then expanded by listening to the audio recording. Expanding the reporter's notes is similar to note-based analysis (Krueger and Casey 2009). This procedure relies mainly on field notes, with the audio only used to resolve confusing statements in the notes. The quality of analysis yielded in this note-based approach is directly related to the ability of the reporter to capture relevant ideas, and the great advantage of this approach is speed. In this study, the note taker was informed of the objectives of the focus group discussions and requested to capture the answers for each participant in as much detail as possible.

This approach involving expansion of the reporter's notes is recommended by Bertrand *et al.* (1992) when: (1) resources are limited; (2) there is time pressure; and (3) the objective of the groups is to get quick feedback from members of the population under study. Other than speed, the advantage of the note-expansion method is that it captures all the main points of the discussion. However, one disadvantage of this method is reporter bias in selecting what is noted.

After the expanded notes were produced, the content of the group discussions was organized by taking an inventory of the points discussed. According to Kumar (2014), content analysis seeks to identify the main themes derived from the respondents' statements, and it can be conducted manually or by using computer software (such as Ethnograph or NVivo). Merriam (2009) explained that in qualitative research, the practical goal of data analysis is to find answers to the research questions and to group these answers as categories or themes.

Merriam (2009) noted that category construction begins with reading the first focus group transcripts, then making notes for potentially relevant segments of data that may answer research questions. This process is known as open coding and is highly inductive. The next step is to group the open codes into a list of tentative categories (axial/analytical coding), and move to the next section of transcript to check if the categories continue to be present. As the process moves on with subsequent transcript segments, some categories remain solid but others will not hold up. Towards the end of data analysis, the researcher will have a more deductive view in looking for evidence to support the final set of categories or themes. The names of categories can then be determined based on the participants, the researcher, or the literature.

Following Kumar (2014) and Krueger and Casey (2000,cited in Chamhuri 2011), an inventory of points was made manually for each focus group in the form of a Microsoft Word table. The use of a long table facilitated content analysis by comparing the words used to answer each question by each group. This approach is similar to 'framework analysis' advocated by Ritchie and Spencer (1994, cited in Flick 2007), which uses a grid to identify or 'frame' patterns in the data. The grid or matrix summarizes the patterns with regard to raising specific issues (or codes) within the themes. The table of themes was produced first in Indonesian and then translated into English.

After the main themes were identified manually by the researcher, NVivo 10 was used to support the manual data analysis. The recorded focus group discussions were first transcribed in Indonesian. According to Merriam (2009), where data has been collected in a

language other than English, two strategies may be applied: (1) a transcript is prepared in the original language and then translated verbatim into English, and data analysis is then conducted in English; or (2) data analysis was conducted in the original language and then the findings and supporting evidence are translated into English. Either way, a back translation process is needed: that is, a bilingual person should be asked to translate some of the English back into the original language. If the translation is close to the original, the translation is considered reliable.

This study conducted the back-translation (English into Indonesian) for both the transcripts and the manually identified list of themes. After the transcripts were back-translated, they were then put into NVivo. The themes were grouped into nodes based on the focus group interview guides (strengths and weaknesses of modern and traditional retailers and themes associated with the purchase of cooking oil, chicken, and kangkong) (Appendix G). The themes will be discussed in the next chapter, which addresses preliminary research findings.

In reporting on focus group discussions, Edmunds (1999, p. 12) suggested that 'the report varies significantly from quantitative reports in that there are no graphs or percentages'. He suggested that focus group reports put together the main points of the conversations to indicate the views among the participants, which often includes some direct quotations. Conclusions are largely based on the majority of responses, but variety of opinion is also taken into consideration so that all sides of a topic are covered.

In discussing the focus group results, Kumar (2014, p.298) suggested that 'after identifying the main themes, a researcher can select procedures to deal with them: (1) select verbatim responses and integrate them into a research report to support or contradict the argument; (2) assign a code for each theme and count how frequently each has occurred; and (3) combine both methods to communicate findings'. This study will take the combined approach of verbatim responses and identifying themes in reporting the qualitative findings in the chapter to follow (Chapter 5).

4.3 Summary

This chapter has presented the research paradigm for this study, justifying the selection of a mixed methods (sequential exploratory) design. It has also presented a description of the qualitative research design for the preliminary stage of this research, including the justification for focus groups to address the preliminary research objectives. This chapter has also detailed the structured interview guide for focus groups, sample selection, and

preparation, which was done before conducting the focus group interviews. Finally, the chapter has described the process of managing the focus groups during data collection and the procedure for transcribing and identifying themes in the qualitative data.

CHAPTER 5

PRELIMINARY RESEARCH FINDINGS

5.1 Introduction

In this chapter, the findings of two series of focus group discussions undertaken during the preliminary research stage are discussed. Section 5.2 describes the socio-demographic characteristics of the participants. Section 5.3 outlines their preferred retail outlets for the three food products under investigation (cooking oil, kangkong and chicken), while Section 5.4 gives detail regarding the frequency of purchase and the quantity purchased. The chapter then discusses the themes that emerged and their influence on purchasing decisions for cooking oil (Section 5.5), fresh kangkong (Section 5.6) and fresh chicken meat (Section 5.7). Themes emerging for the three products are then compared (Section 5.8) and the findings summarized (Section 5.9).

5.2 Socio-demographics

The first series of focus groups were designed to target general shopping habits associated with the purchase of fresh chicken meat and fresh kangkong. A total of 62 participants took part in five focus group discussions held in December 2011. There were seven participants in Focus Group (FG) 1, ten participants each in FG2 and FG3, 17 participants in FG4 and 18 participants in FG5.

The participants were the main shoppers in their households, but a few shared shopping tasks with their mother, husband or servant. Of the 62 participants, only one was male. More than half of the participants (60%) were in the age groups of 25-34 years (34%) and 35-44 years (26%) (see Appendix E). Most participants (80%) were married. For FG1 and FG3, which were recruited through the university network, the education levels were mostly postgraduate, but for FG2, FG4 and FG5 which were recruited through the neighbourhood network, the education levels were mostly high school. The main occupations of participants were housewivees (53%) and government officers or lecturers at a public university (31%). The spouses' (mainly husbands') occupations were reported as private company worker (46%) or sole business proprietor (30%).

The major ethnicities of the participants were Minangkabau (48%), followed by Javanese (20%) and Malay (19%). Similarly, the spouses' ethnicities were mainly Minangkabau (36%), Malay (26%) and Javanese (24%). The participants resided in a number of suburbs across Pekanbaru City, but the majority lived in Tampan (48%) and Sail (26%), suburbs close to the moderator's and the researcher's place of residence. About half of the participants (47%) lived in a household with 3-4 other people, with 47% of the participants having at least one child under the age of five years old.

Some 56% of the participants had a monthly family income of less than IDR 3 million, with 35% having a monthly family income of IDR 3.1 - 9 million. Only five participants (8%) had a monthly family income of more than IDR 9 million. The monthly family expenditure on food was typically between IDR 0.5 - 1.5 million (73%) and IDR 1.6 - 3 million (23%), which equated to roughly half of the monthly family income. The majority of the participants had a refrigerator (73%), but only a few (18%) owned a microwave oven. Nearly all participants (97%) had at least one motorbike in the family, with 21 participants (34%) owning a car. Most of the participants (58%) therefore, did not need to rely on public transport for their food shopping. Most participants (76%) did not have a credit card.

The second series of focus groups focused on shopping habits associated with the purchase of cooking oil. A total of 27 participants participated in four focus groups conducted in September 2012. There were eight participants in FG1, seven participants in FG2, six participants in FG3 and six participants in FG4 (see Appendix F).

Participants in this second series of focus groups were all female. Nearly all were married (96%) and were principally employed as housewives (93%). Most participants (81%) had only a junior or senior high school level education. In terms of age, most participants (74%) were aged between 25 and 44 years old and 15 participants (56%) had at least one child under the age of five years old.

The major ethnicities for participants were Minangkabau (48%), Malay (19%) and Javanese (19%). This was somewhat similar to their husbands' ethnicities, which were reported as being Minangkabau (44%), Malay (22%), Bataknese (15%) and Javanese (11%). This was due, in part, to the location in Riau Province (with a majority of Malay inhabitants), which is next to West Sumatra Province (Minangkabau ethnicity) and North Sumatra Province (Bataknese ethnicity). Javanese is the majority ethnic group in Indonesia. The participants all lived in one area (Tampan) because all were recruited from around the moderator's residence.

Most of the participants' households consisted of 3-4 (44%) or 5-6 people (37%). Regarding income, most participants (67%) had a monthly family income of IDR 3 million or less, with food expenditure consuming approximately half of the household income (typically IDR 1.5 million or less). Most participants (67%) had a refrigerator, but only one participant owned a microwave oven. Most participants (63%) owned a motorbike, but only eight participants (30%) owned a car. None of the participants had a credit card.

The socio-demographic characteristics of the participants of the two focus groups not necessarily represent the characteristics of Indonesian consumers due to the convenience sampling selected for this preliminary stage. Some criterion, however, were similar to the characteristics of Indonesian consumers from previous studies, such as the common ownership of motorbike and low percentage of participants who owned car, microwave oven and credit card (Appendix G).

5.3 Preferred retail outlets

5.3.1 Preferred outlets for cooking oil

Previous research has demonstrated that consumers often split their food purchases, buying staple and processed food lines from modern retailers (supermarkets and hypermarkets) and perishable food products from the traditional wet market (Farhangmehr, Marques and Silva 2001; Goldman and Hino 2005; Vorley, Fearne and Ray 2007; Veeck and Veeck 2000). The participants were asked to identify the most important (main retailer) and the second most important retailer (additional retailer) in their purchase of cooking oil. Participants from all four focus groups preferred to purchase cooking oil from small neighbourhood shops (*warungs)*, independent grocers (wholesalers) and modern retailers (hypermarkets, supermarkets and minimarkets). Only a few participants purchased cooking oil from wet markets, but some independent grocers were located inside the wet markets (Table 5.1).

Table 5.1: Main and additional retailers for the purchase of cooking oil

Retailers for cooking oil		FG1	FG2	FG3	FG4
Main retailer	*Warung*	√	√	√	√
	Minimarket	√	√	√	√
	Independent grocer (wholesaler)	√	√	√	
	Wet market			√	
	Supermarket	√	√	√	√
	Hypermarket	√	√	√	√
Additional retailer	*Warung*	√	√	√	√
	Independent grocer (wholesaler)	√	√		
	No other	√		√	√
	Temporary market		√	√	
	Wet market			√	
	Supermarket		√		

For the secondary or other retailer, most participants used a *warung* as it was the closest retail store to their home. Participants who relied on nearby *warungs* for all their food purchase needs (dry and fresh foods) seldom used another retailer. Therefore a *warung* was the main retailer for participants who were not prepared, or not able to travel to alternative shopping destinations and were only able to purchase in small quantities. The *warung* also functioned as a secondary retailer for those participants who purchased weekly or monthly supplies of cooking oil from independent grocers or modern retailers in situations where they unexpectedly ran out of cooking oil. As Prasad and Aryasri (2011) concluded, the shopping trip pattern, as well as purchase volume, can have a significant influence on store choice decisions.

5.3.2 Preferred outlets for fresh kangkong

The main retailers for the purchase of fresh kangkong were temporary half-day markets (*pasar kaget*), permanent traditional wet markets and small neighbourhood shops (*warungs*) (Table 5.2).

Table 5.2: Main and additional retailers for the purchase of fresh kangkong

Retailers for kangkong		FG1	FG2	FG3	FG4	FG5
Main retailer	Wet market	√	√	√	√	√
	Temporary market / *pasar kaget*	√	√	√	√	√
	Warung	√	√	√	√	√
	Farmer		√			
	Hawkers	√				
Additional retailer	*Warung*	√	√	√	√	√
	Wet market	√			√	√
	Hypermarket			√		√
	No other			√		

Temporary markets were closer to the participants' place of residence and provided a good variety of fresh produce at cheaper prices than the wet markets. Generally, in residential areas, there were two half-day markets each week, and these generally occurred at different times, for example Wednesday morning and Saturday afternoon. The emergence of these temporary markets is a relatively recent phenomenon. According to some participants (FG4), these markets were developed by traditional wet market retailers who established their businesses in residential areas to "help their neighbours" by selling at a cheaper price. Other participants from FG3 confirmed that most temporary markets started at 2pm and ran until the late afternoon. The same vendors sell at different market locations on different days. Most sell fresh fruit, vegetables and fish, but one participant had also purchased fresh chicken from a temporary market. One also added that the quality of fresh vegetables and fish was good: the produce was not leftovers from the wet market in the morning.

Some consumers sourced fresh produce from small neighbourhood stores (*warungs*). These participants lived in an area where either the wet markets or temporary markets were far away, or where public transport was limited and expensive. Another limitation was the household budget; low-income participants purchased in only small quantities. When purchasing in small quantities, it made little economic sense to pay for transport to go to a more distant market (Neven *et al.* 2006). On the other hand, some participants shopped daily at *warungs* by choice. These consumers had the financial resources to shop at wet markets but found it unnecessary as they rarely cooked at home due to the nature of their work or small household size.

Warungs were mainly used to replenish daily cooking needs or to complement weekly fresh produce purchases from the wet markets. According to Tessier (2010) and Reardon *et al.* (2003), traditional wet markets and small shops such as *feria libres* in Chile, *attars* in Tunisia and *warungs* in Indonesia, continue to be convenient options for urban residents shopping for fresh produce. *Warungs* generally get their produce from the wet markets (Suryadarma *et al.* 2010), and therefore are indirectly supporting the resilience of the traditional food marketing system.

Modern retailers were not mentioned as the main retailer for kangkong. Participants only sourced fresh produce that was not usually available in the wet market (imported fruit and vegetables, for example) from hypermarkets and supermarkets, as well as pre-packed, pre-cut or mixed vegetables. Participants mostly went to hypermarkets and supermarkets to buy dry food, but on some occasions they would buy fresh fruit and vegetables mainly on impulse. Only a few participants purchased fresh fruit and vegetables from hawkers or directly from farmers, as these retailers were seldom available.

5.3.3 Preferred outlets for fresh chicken meat

The main retailers for chicken were roadside chicken stalls and chicken stalls in traditional wet markets (Table 5.3). To ensure that halal status was guaranteed, most participants selected these two types of retailers, as both provided live chicken to be slaughtered on the spot. Tinggi, Jakpar and Padang (2012) suggested that consumers prefer to go to those stores that guarantee the food products purchased will conform to their cultural and religious beliefs.

Table 5.3: Main and additional retailers for the purchase of fresh chicken meat

Retailers for chicken		**FG1**	**FG2**	**FG3**	**FG4**	**FG5**
Main retailer	Chicken stall in wet market	√	√	√	√	√
	Temporary market			√		
	Road side/independent chicken stall	√	√	√	√	√
	Warung			√	√	√
Additional retailer	Road side/independent chicken stall	√				
	Warung	√	√		√	√
	Supermarket		√		√	√
	Other traditional market			√		
	No other			√		

Other than halal assurance, participants also mentioned that they purchased chicken in wet markets because they could combine it with their regular fresh food shopping. On the other hand, roadside chicken stalls were often selected because they were closer to residential areas.

However, when participants chose not to buy a whole chicken (due to small family size or limited budget), they would purchase a half chicken or chicken portions from a trusted *warung*. Other reasons to purchase chicken from *warungs* were urgent needs (such as unexpected guests coming) or if they could not go to the wet markets because, for example, it was raining.

Only a few participants sometimes purchased chicken from hypermarkets. The reasons were the superior packaging, seasoning, the need to purchase a certain portion of chicken and trust in the hypermarket's reputation. Some participants (FG2 and FG4) had, on impulse, purchased neatly packed chicken pieces with attractive seasoning from hypermarkets, but had never purchased them again because they believed the taste was not as good as the fresh chicken from traditional markets. One participant (FG5) occasionally purchased chicken from hypermarkets to obtain certain portions because of her trust in the hypermarket.

5.4 Frequency and quantity of purchase

5.4.1 Cooking oil

In Indonesia, cooking oil is available in two types: branded and unbranded (bulk) cooking oil. Branded cooking oil, representing 10% of the vegetable oil consumed, has a brand and is usually sold in various-sized packages (usually 1 kg) at a premium price in hypermarkets and supermarkets. Unbranded cooking oil (representing 90% of vegetable oil consumed) is also referred to as bulk cooking oil because consumers may bring their own container to the small neighborhood store or traditional market to fill from a bulk container or use small plastic sachets filled at the seller's place (Soekirman *et al.* 2012).

Approximately half of the participants (48%) purchased cooking oil 2-3 times a week, typically once every two days (Table 5.4).

Table 5.4: Frequency and quantity of purchase of cooking oil

Frequency of purchase	FG1	FG2	FG3	FG4	Total
Everyday	-	-	-	-	-
2-3 times a week	6	3	3	1	13
Once a week	2	-	2	-	4
2-3 times a month	-	2	-	2	4
Once a month	-	2	1	3	6
Seldom	-	-	-	-	-
Quantity of each purchase (bulk in g or kg and packaged cooking oil in L)					
250-500 g	5	2	2	1	10
1-2 l or kg	3	2	3	2	10
3-4 l or kg	-	3	-	2	5
More than 4 l or kg	-	-	1	1	2

The other half (51%) purchased cooking oil less often than this (once a week, 2-3 times a month or once a month). No participant purchased cooking oil daily, or seldom purchased cooking oil, because cooking oil is a durable (dry) good (non-fresh food) that is used almost invariably on a daily basis.

"There was no day of cooking without oil. You can boil your vegetables but still need oil for frying the chilli condiment" (FG1)

"I think for Indonesians it is not possible to cook without oil, at least 2 spoonfuls for each time of cooking, regardless of their ethnicity" (FG1)

In terms of quantity of purchase, bulk unbranded cooking oil was available to purchase by weight (250g, 500g and 1kg), but packaged cooking oil was mostly available in a bottle of 1 L or larger. According to the ICRC (2015), vegetable oil should always be traded in litres. This is because one kilogram of oil represents different volumes, as each variety of oil has its own specific density. Therefore, one kilogram of oil typically equal to more than 1 litre of oil. For palm oil, the density is 890g/L. Therefore, 1 kg of bulk cooking oil will be more than 1 litre of packaged cooking oil, as noted by one participant:

"… packaged cooking oil is less in terms of weight. One litre is in fact not the same with 1 kg. One litre of cooking oil is only 3 cantings (measuring cups) while 1 kg is 4 cantings." (FG1)

The quantity of purchase varied from 250-500 g (37%) to 1-2 L (37%) and 3 L or more (26%). Those who purchased cooking oil more often (2-3 times a week) would buy small quantities of 250-500 g from a *warung* to suit their husbands' salaries, because they were paid on a daily or weekly basis. Participants mentioned that the quantity of cooking oil they needed depended on their family size and the type of dishes cooked in the household. Some dishes (the fried dishes) needed more cooking oil than others (those boiled or cooked in coconut milk), so participants tried, in part, to vary the dishes cooked so they could minimize the consumption of cooking oil.

5.4.2 Fresh kangkong

In general, participants purchased fresh kangkong with other fresh foods once a week, usually on the weekend (Table 5.5). Some 63% of the participants purchased kangkong 1-2 times a week. Another 24% sometimes or seldom purchased kangkong, due to family preferences for other vegetables. Two participants (3%) never purchased kangkong, one because she did not like the taste of kangkong and the other because she received a weekly supply of fresh vegetables from her husband's office. Participants usually purchased 5-7 different kinds of vegetables, including leafy vegetables (kangkong, spinach) and more durable vegetables such as carrots, beans and cabbage. They cooked the leafy vegetables first

and when they needed more, they purchased them from either a *warung* or a temporary wet market within walking distance.

Table 5.5: Frequency and quantity of purchase of fresh kangkong

Frequency of purchase	FG1	FG2	FG3	FG4	FG5	Total
2-3 times a week or more often	1	2	-	1	2	6
1-2 times a week	4	4	4	14	13	39
Sometimes/seldom	2	2	6	2	3	15
Never	-	2	-	-	-	2
Quantity of each purchase						
3 bunches or more	1	-	2	-	2	5
1-2 bunches	6	8	8	16	16	54
Half bunch	-	-	-	1	-	1
Not applicable because never buy	-	2	-	-	-	2

In terms of quantity, most participants (87%) purchased 1-2 bunches of kangkong on each visit. A few participants (8%) purchased three bunches or more (up to 10 bunches) because they cooked kangkong more often in the week or needed to feed their backyard rabbits. One participant (FG4) reported that she purchased only a half bunch of kangkong from a *warung*.

5.4.3 Fresh chicken meat

For fresh chicken meat, the frequency of purchase varied considerably (Table 5.6). Half of the participants (52%) seldom purchased chicken, 35% purchased it once or twice per week, 6% purchased it three or more times per week, and 6% never purchased chicken.

Table 5.6: Frequency and quantity of purchase of fresh chicken meat

Frequency of purchase	FG1	FG2	FG3	FG4	FG5	Total
3 times a week or more often	-	-	2	-	2	4
1-2 times a week	6	4	7	3	2	22
Seldom	-	5	-	13	14	32
Never	1	1	1	1	-	4
Quantity of each purchase						
Certain chicken portions	-	-	-	-	2	2
Half chicken	-	1	-	5	6	12
1 whole chicken	6	8	6	11	9	40
2 whole chicken	-	-	1	-	1	2
3 whole chicken or more	-	-	2	-	-	2
Not applicable because never buy	1	1	1	1	-	4

For participants who seldom purchased chicken (most of them from FG4 and FG5), the reasons were: (1) the price was too high, therefore they only purchased chicken when it was affordable; (2) they seldom cooked raw chicken because they usually purchased ready-to-eat chicken; and (3) the participants or their family preferred fish and other seafood to chicken. Participants who purchased chicken more often (three times a week or more) had a much higher income than other participants or had more young children who really liked the taste of chicken. Several participants never purchased chicken because their family did not like to eat it; several only purchased cooked chicken, or they received a weekly supply of chicken from their workplace-as part of a remuneration package.

In terms of quantity, most participants (65%) purchased a whole chicken weighing 1-1.5 kg. Most of them purchased live chicken to have it slaughtered and dressed by the vendor. Due to its high price, 19% of the participants could only afford half a chicken. A few more affluent participants (6%) (mostly from FG3) purchased 2-3 whole chickens due to their family preference (mostly that of the children). Two participants purchased preferred chicken portions from hypermarkets.

5.5 Factors influencing the purchase decision for cooking oil

The focus group results found that for cooking oil, consumers had two broad options: non branded bulk cooking oil and branded packaged cooking oil. Bulk cooking oil was mainly sold in *warungs* and in some stalls in the wet markets, while branded and packaged cooking oil was mainly sold in minimarkets, independent grocers and wholesalers, supermarkets and hypermarkets.

In FG1, all participants purchased bulk cooking oil and very seldom bought packaged cooking oil. Participants believed that packaged cooking oil tasted better, but seldom purchased it due to their limited budget. In FG2, most participants preferred packaged cooking oil and only a few purchased bulk cooking oil. In FG3, almost all participants purchased bulk cooking oil and only one participant purchased packaged cooking oil. These participants perceived packaged cooking oil to be healthier and more economical to use, but again they were limited by their budget. In FG4, almost all participants preferred packaged cooking oil.

In general, bulk cooking oil was chosen because it could be bought in small quantities at a lower, more affordable price, while branded and packaged cooking oil was chosen due to the superior taste. Furthermore, branded and packaged cooking oil was perceived to be a healthier option. Packaged cooking oil was also perceived to be more economical to use because it did not readily change colour after usage.

Nine themes were identified as major factors influencing the participants' decision to purchase cooking oil (Table 5.7).

Table 5.7: Themes influencing consumers' purchase decision of bulk and packaged cooking oil

Themes	FG1	FG2	FG3	FG4	Bulk cooking oil	Packaged cooking oil
Lower, affordable price	√	√	√	√	√	
Promotional offer	√	√	√	√		√
Impulse buying	√	√	√	√		√
Health/cholesterol concern		√	√	√		√
Economy of use		√	√	√		√
Taste	√	√		√		√
Cleanliness/ transparency	√	√	√		√	
Availability in small quantities	√		√		√	
Practical packaging			√	√		√

5.5.1 Lower, affordable price

As cooking oil was a basic household need, most participants identified a lower or more affordable price as a major factor influencing their decision to purchase cooking oil. Most Indonesians remain price sensitive, as they spend 50% or more of their monthly household income on food (Ridley 2009; New Zealand Trade and Enterprise 2012).

"Mostly I buy cooking oil from grocer, I buy in large quantity for reselling and the price is cheaper there…" (FG2)

"*I dont pay attention to the brand (of cooking oil), because I just choose the cheap or affordable one. I buy any brand such as Bimoli or Fortune etc which was on low price"* (FG3)

The importance of price in this study supports the findings of Smith and Dawson (2004), who suggested that the Asian economic crisis had caused consumers to be much more price-conscious than before and most had remained so. The lower a consumer's household income,

the more attention they paid to price when purchasing a food product (Frank 2006 cited in Olavarrieta et al. 2012).

5.5.2 Promotional offers

In terms of price, all participants in this study (all focus groups) considered promotional offers by modern retailers when purchasing cooking oil. Some of the more affluent participants mentioned that they purchased large packs of cooking oil (2-4 L) which enabled them to save money.

Previous research (Sanlier and Karakus 2010) suggested that consumers take notice of products with reduced price or products that are being promoted. Therefore, promotion and price reductions affect consumers' perception of the real value of a product.

According to Olavarrieta *et al.* (2012), most retailers displayout-of-store signs at the store entrances to promote products and increase traffic. Chamhuri (2011) noted that modern retailers were more active in reaching shoppers while traditional retailers were more passive. In Indonesia, price discounts are offered mostly by hypermarkets, while minimarkets offered lottery coupons or reward points in exchange for their patronage. In this study, participants who mainly used packaged cooking oil used price discounts as an opportunity to replenish their stock at a lower price. On the other hand, for lower-income participants who mainly used bulk cooking oil, promotions provided an opportunity to taste the more expensive cooking oil. Some only purchased packaged cooking oil when the price was very low or when they had extra money. However, some low-income participants were reluctant to visit modern retailers to benefit from the promotional offers, because they were worried that it would cost them more than the amount they might save from the discounted prices.

"You may save IDR 1,000 for purchasing packaged cooking oil on special price from hypermarkets, but then your children want to buy some snack foods which cost more than IDR 1,000" (FG1)

"I always purchase from any modern retailer when the cooking oil is on special price (promotional offers). You know housewives… always try to get cheaper prices" (FG2)

5.5.3 Impulse buying

Impulse buying is mostly defined as 'an unplanned purchase initiated on the spot' (Verplanken and Herabadi 2001 cited in Skallerud, Korneliussen and Olsen 2009). In this study, promotional offers seemed to encourage impulse buying, as all participants from the four focus groups mentioned that they sometimes made unplanned purchases of packaged cooking oil when it was being promoted (or was on a special offer) when they shopped for other food products or 'window shopped' at modern retailers. The discounted price encouraged more affluent participants to purchase more cooking oil than they previously planned for supply or consumption in the following months.

"I seldom buy packaged oil but once purchased in swalayan/supermarket due to impulse buying when I purchased other items" (FG2)

According to Geetha *et al.* (2010, cited in Mohan, Shivakumaran and Sharma 2012), store layout and ambience may influence unplanned purchasing. Some participants mentioned that they had first looked around in hypermarkets or supermarkets with no intention to buy, but ended up buying a bottle of packaged cooking oil because they wanted to try it. This purchase supports Nordfalt (2009) suggestion that unplanned buying could benefit consumers because they learn about new products and alternatives to their regularly purchased item(s).

5.5.4 Health/cholesterol concern

Even though the average Indonesian consumer places more importance on price than on quality and appearance, Indonesian consumers increasingly make decisions based on health and nutritional concerns (Rangkuti and Slette 2010). In this study, some participants said that they were not worried about the health issues associated with using bulk cooking oil. However, others said that they had switched to packaged cooking oil whenever the household budget allowed them to do so. This was due to health and safety concerns about bulk cooking oil that had been raised by the media (TV news and commercials), including the impact of cholesterol on health, the mixing of bulk cooking oil with non-edible substances, and the refining of used cooking oil from the food industry for subsequent-resale.

"Bulk oil sometimes causing the throat become dry/coughing" (FG2)

"Packaged cooking oil…was filtered many times so it has low cholesterol (healthier). However, the price difference of IDR 2,000 from the price of bulk cooking oil is also significant enough" (FG3)

In general, Indonesian consumers prefer packaged and branded products to those traditionally sold in bulk in the wet markets, as packaged products provide an assurance of quality and health (Smith and Dawson 2004). In this study, participants perceived that packaged (branded) cooking oil was of better quality and safer than bulk cooking oil, and also that it was lower in cholesterol. However, for some participants with a limited daily food budget, they simply could not afford packaged cooking oil. This is consistent with the findings of Chikweche and Fletcher (2010), who found that consumers in Zimbabwe purchased cheaper (lower quality) animal-based cooking oil instead of more expensive vegetable-based cooking oil.

5.5.5 Economy of use

When participants used mainly packaged cooking oil (FG2 and FG4), they took into consideration its economy of use. Most participants perceived packaged cooking oil to be of better quality as it did not change colour after just one fry. Therefore, they could reuse the cooking oil on several more occasions, and thus it lasted longer than bulk cooking oil, which often became dark in colour after just one fry.

"I purchased 2 litre packaged cooking oil once every two weeks, it was more expensive but would last longer in use than bulk cooking oil. If I fried a lot, a quarter litre of packaged cooking oil would be enough for one cooking, but would not be enough if I used bulk cooking oil" (FG2)

5.5.6 Taste

Taste was more often related to packaged cooking oil. Most participants considered the use of packaged cooking oil to result in more tasty and crispy fried food. However, for many participants with low income, the price of branded packaged cooking oil was too expensive. As Chamhuri (2011) reported, quality also meant that the product would taste good.

"Sometimes I purchased packaged cooking oil from minimarket when I visited my parents, just to try the more tasty cooking oil" (FG1)

5.5.7 Cleanliness/transparency

According to Gupta (2009), cleanliness of the product is one of the most important attributes for many food categories (vegetables, milk and milk products, grains and processed foods). In this study, cleanliness emerged as a consideration in the purchase of cooking oil. As bulk cooking oil had no brand, participants who purchased this type of cooking oil had to rely on its cleanliness or transparency of appearance. If they purchased bulk cooking oil from a *warung*, they had to check that the oil container was clean and that it had a lid.

"I prefer the packaged cooking oil because it is more guaranteed on the cleanliness" (FG2)

"As long as the (bulk) cooking oil is clean and there are no flies inside it when I check it" (FG1)

"Bulk cooking oil has no brand so we select the transparent/clear one over the cloudy one and also check the cleanliness of the oil" (FG3)

5.5.8 Availability of small quantities

When participants used bulk cooking oil (FG1 and FG3), they would often purchase it in small quantities to suit their budget, while for packaged cooking oil, they had to purchase in a larger quantity.

"For bulk cooking oil you can buy 250 g for only IDR 3,000… but for packaged cooking oil you had to purchase at least 1 L" (FG1)

Smith and Dawson (2004) noted that modern retailers have started to offer products in smaller packages because Indonesian consumers prefer smaller more affordable pack sizes (Planet Retail 2008 cited in Ridley 2009; Rangkuti and Slette 2010). However, in this study, smaller packs of branded packaged cooking oil were not mentioned by the participants because most purchased bulk cooking oil.

5.5.9 Practical packaging

With the emergence of the hypermarkets and supermarkets, consumers' preference for packaged food products has increased significantly in recent years. The desire for convenience and an increase in the number of working women are some of the important factors driving the strong growth of packaged food products (Ali, Kapoor and Moorthy

2010). In this study, practical packaging was not as important, because many of the participants only purchased bulk cooking oil from *warungs* within walking distance. These participants occasionally purchased packaged cooking oil as a means of procuring a container that they would subsequently refill when they next purchased bulk cooking oil. Some brought their own container, or used a jar at home to keep the bulk cooking oil. However, a few participants did mention that they preferred packaged cooking oil because of its superior packaging which did not cause spills in the kitchen.

"I purchased Bimoli cooking oil once because I wanted the plastic bottle to be refilled with bulk cooking oil. The pouch container could also stand up but was not so stable and hard to be refilled" (FG3)

"I purchased bulk cooking oil in large quantity from wet market so I bring my own jerry can each time" (FG3)

5.6 Factors influencing the purchase decision for fresh kangkong

In general, participants preferred to buy fresh vegetables from the wet market. However, both low and high-income participants visited hypermarkets due to their preference for one-stop shopping. Higher-income participants went to hypermarkets monthly to shop for dry goods, imported fruits, and occasionally fresh vegetables, while lower-income participants visited hypermarkets mainly for relaxing or looking around the mall, as they had limited budget to purchase food from hypermarkets.

Sixteen themes were identified as the major factors which influencing consumers' decisions to buy fresh vegetables (in this case kangkong) from wet markets or hypermarkets (Table 5.8).

Table 5.8: Themes influencing consumers' purchase decision of fresh kangkong

Themes	FG1	FG2	FG3	FG4	FG5	Wet markets	Hyper-markets /super-markets
Freshness/quality/ natural	√	√	√	√	√	√	
Variety of products/ choices	√	√	√	√	√	√	
One-stop shopping	√	√	√	√	√	√	√
Competitive price/ bargaining price	√	√	√	√	√	√	
Clear price tag		√	√		√		√
Social/intangible function (know the seller/trust, support national product)	√	√	√	√	√	√	
Convenience/cleanliness/ air-conditioned shopping environment	√	√	√	√	√		√
Layout/product arrangement	√	√	√	√	√		√
Parking facility	√	√	√	√	√	√	√
Packaging							
Self-selection by hand (unpacked/loose products)	√	√		√	√	√	
Pre-packed /practical package	√	√		√			√
Free to look around with no obligation to buy	√	√					√
Impulse buying	√	√		√	√		√
Quick check out/quick shopping	√	√	√		√	√	
Closer location	√	√			√	√	
Security/safety	√	√					√
Habit		√				√	

5.6.1 Freshness

For many Asian consumers, "fresh" is used to describe a food item sold in a form close to its original state in nature (Goldman, Krider and Ramaswami 1999), or to identify a product that has come straight from the farm (Veeck and Veeck 2000). In this study, participants chose to buy from the wet market or from *warungs* because they could see fresh vegetables in large baskets, which was evidence that they had just come from the farm or the wholesale market. Participants used the words "quality" and "freshness" interchangeably when describing the reasons that they shopped from wet markets.

"I enjoy looking around to choose the freshest vegetable available in the wet market. I can see it from the appearance of the produce" (FG1)

The vast majority of participants considered the fresh produce available in modern retailers not to be fresh. Some participants in FG4 (which mostly consisted of lower-income participants) said that refrigerators misled people on freshness. This was similar to consumers' opinion in Nairobi, where they believed refrigeration allowed supermarkets to keep produce beyond its ideal (natural) freshness (Neven *et al.* 2006). Some participants suggested that fresh produce in modern retailers was not fresh because of the slow turnover and based on their past experience, where the discounted fruit offered for sale had already begun to decay. According to Zhang and Pan (2013), the vegetables sold in supermarkets arrived the night before, while wet market vendors purchased their vegetables in the early morning on the same day.

5.6.2 Variety

Participants preferred wet markets because they could choose the freshest produce from the large number of stalls available. Even if they had preferred retailers, they would not buy there if the produce was not fresh. According to Chamhuri and Batt (2009b), variety meant more choice when shopping in the traditional wet markets as a wet market consists of an agglomeration of small vendors, each specializing in one fresh food line (meat, fish, fruit, or vegetables).

"I preferred wet market to buy kangkong because it has lot of stock so I can choose" (FG2)

For the modern retailers, variety meant a greater choice of products and brands. This was because most participants visited the supermarkets and hypermarkets to buy packaged dry

foods. According to Goldman, Krider and Ramaswami (1999), if wet markets are viewed as "fresh food supermarkets", supermarkets are perceived as providing the same advantage for packaged food. Larger product assortments become more important as one's opportunity cost of time increases, and for this reason supermarkets are gaining popularity (Messinger and Narasimhan 1997, cited in Bai, Wahl and McCluskey 2008). Some higher-income participants mentioned the availability of imported fruit and vegetables as their reason for buying from hypermarkets.

"If I need specific vegetable such as broccoli then I go to Hypermart" (FG2)

5.6.3 One-stop shopping

Other than product variety, consumers also appreciated the opportunity to shop for a variety of products in one visit. This was made possible by the introduction of hypermarkets which offered a new concept of 'one-stop shopping' within a mall complex.

"Sometimes I buy kangkong/vegetables at mall because of one stop shopping. I am sure it's fresh and has been selected before being packed" (FG5)

According to Pan and Zinkhan (2006), a wide selection of products can minimize the perceived cost of travel and minimize the time and effort associated with each shopping trip, thus making the shopping task easier. Malls are spacious and provide many kinds of products and services under one roof (Berry et al. 2002, cited in Khare 2011). According to Kholis, Ratnawati and Yuwalliatin (2011), consumers visit modern retailers to shop and for entertainment. In this study, most participants also visited a shopping mall for recreation with family or friends; however the lower-income participants rarely purchased anything due to the high price.

5.6.4 Competitive price/bargaining price

Competitive, cheaper, or more reasonable price were mentioned as another reason that participants chose to purchase fresh produce at the wet markets and temporary markets. According to Goldman, Krider and Ramaswami (1999), with a number of adjoining stalls in wet markets offering the same product lines, quality and price comparisons could be readily made, which in turnresulted in more competitive pricing (Suryadarma *et al.* 2010). Simple facilities and fast product turnover were believed to enable wet market retailers to offer lower prices (Goldman, Krider and Ramaswami 1999).

Participants also perceived prices in the wet markets to be lower due to the price discounts that are offered late in the day to clear the merchandise before closing, or to move large volumes of seasonal produce. Some participants mentioned that the clearing price in the temporary afternoon market attracted them to buy fresh vegetables. They often deliberately came late to catch the closing deals. The image that wet markets offer lower prices was enhanced by the fact that much of the fresh produce carried by supermarkets was expensive, such as imported fresh fruit and vegetables (Goldman, Krider and Ramaswami 1999).

In addition to the competitive price, many participants enjoyed the opportunity to bargain for price in the wet market. Kholis, Ratnawati and Yuwalliatin (2011) concluded that some of the factors attracting consumers to shop from wet markets were the price bargains and lower prices. However, some participants in this study, particularly working mothers, were not comfortable with the bargaining process.

"I do not like bargaining. I asked for a lower price but the seller disagreed, then after I moved on the seller called me to come back. It was annoying" (FG1)

"I never bargain for fresh produce. It is already cheap. But I think for a non-working housewife like my mother-in-law, she will bargain even for the smallest price reduction. Maybe it is a kind of achievement for her" (FG3)

5.6.5 Clear price tag

With busier lifestyles, urban women are becoming less interested in price bargaining in the wet market, preferring instead to opt for the fixed prices in modern retail outlets (Indiastuty 2006). Based on a study in Semarang, Kholis, Ratnawati and Yuwalliatin (2011) identified that clear price tags were one of the factors attracting consumers to shop from modern food retailers. In this study, some participants mentioned that they preferred fixed prices because they were not good at bargaining and they often paid higher prices in the wet market. However, another issue that arose with modern retailers' price tags was the tax component which was not usually included in the label price. This caused problems for uninformed customers when they were asked to pay more than the expected price at the check-outs, which may present a disincentive for them to shop in modern retail stores.

"Sometimes people bring IDR 100,000 and chose the items based on it, but due to added tax at the cashier, they were asked to pay more than what they expected" (FG3)

5.6.6 Social function

Most participants mentioned the importance of having a personal relationship with retailers in the wet market. Some of them had regular sellers they trusted who sometimes offered discounts. This relationship was important in order to be sure that sellers were not cheating on the weight or mixing the quality.

"Because we've patronized seller and cheaper if we buy in large quantity…If some people get the price of IDR 2,500, I can get IDR 1,500 or 2,000 (for kangkong)" (FG5)

This buyer-seller relationship supports traditional retailers, as a large segment of the population (lower and middle classes) have a social relationship with their preferred retailer (Amine and Lazzaoui 2011). Most traditional retailers are run by owner-operators, which facilitates the development of a long-term relationship with customers (Dholakia, Dholakia and Chattopadhyay 2012). Other than their personal relationship with retailers, some participants mentioned that they shopped from nearby *warungs* to meet their neighbours. Similar experiences were reported in Tunisia (Tessier 2010) and Malaysia (Chamhuri 2011). Several participants, particularly those with a higher income and education level, also mentioned that they shop at wet markets to support small-scale vendors.

5.6.7 Convenience

The focus group discussions revealed that most participants shopped in hypermarkets or supermarkets because of convenience. According to Zhang (2002), the main reason for buying vegetables in supermarkets was shopping convenience. Khare (2011) found that different consumers put different emphases on the physical features of the mall. Some shoppers were more attracted by the design and environment aspects of the shopping mall, while other shoppers were attracted to malls with easy access to stores and spacious sitting areas.

"I like hypermarket because I need certain products such as broccoli…comfortable, go in clean go out clean, clean, tidy, and artistic" (FG2)

Most participants in this study explained "convenience" as clean, good smell and comfortable air conditioned environment. This was in contrast to the infrastructure problems they identified in the wet markets, particularly in the wet season. The air-conditioning in the store was also mentioned by participants in this study in relation to hypermarkets. In a hot

tropical area such as Riau, where most consumers do not have an air conditioner at home, cool air in a shopping mall is appealing. In spite of this convenience, participants also complained about the limited parking and long check-out queues at the hypermarkets on weekends.

5.6.8 Lay-out

Lay-out or product arrangement was closely related to convenience. Most participants mentioned good product arrangement and layout as a reason for shopping from the hypermarkets. Hsu et al. (2010, cited in Maruyama and Wu 2014b) confirmed that store lay-out, together with lighting and music, are important components of store image. Arrangement by product category in hypermarkets also meant that respondents could find the products easily.

"Well-arranged, no need to go around looking for things" (FG1)

This is in contrast with product arrangements in wet markets. Some participants mentioned that stall arrangements in wet markets were messy, making it hard to find an item quickly. However, other participants argued that familiarity with the arrangement of a commonly patronized wet market overcame many of these problems.

5.6.9 Parking

Parking emerged as a concern in all five focus groups. In Pekanbaru, most traditional wet markets were some distance away from residential areas, so the majority of participants needed to use a vehicle to reach them. Even most of those participants who owned a car, preferred to use a motorbike to go to the wet market because they could park their motorbike very close to the wet market, making it a shorter distance to carry bulky shopping bags. Wet markets were seen as crowded, but finding a parking spot was easier and it was also free.

"(I like traditional market because) … no queuing, convenient parking … need a shorter time for shopping" (FG3)

For hypermarkets, parking was also an issue. Most of the hypermarkets charged a parking fee, therefore, some participants preferred one hypermarket over the others due to its extensive parking area or free parking facilities. According to Carpenter and Moore (2006), access to parking facilities is very important for convenience-oriented shoppers. Some

participants avoided busy shopping hours, such as weekends, due to parking problems. However, this is not always easy to do for double-income families. Dholakia, Dholakia and Chattopadhyay (2012) identified this problem as a "reversal of convenience", where the convenience of one-stop shopping is undermined by the inconvenience of spending so much time looking for a parking space.

5.6.10 Packaging (unpackaged versus packaged produce)

In traditional markets, most products are sold unpackaged, so consumers have an opportunity to feel and taste them prior to purchase (Tuncalp and Yavas 1990). Prasad and Aryasri (2011) have recently shown that food and grocery consumers prefer to 'see-touch-feel-select' items before purchase. Most of the participants in this study mentioned that touching fresh produce was necessary to enable them to choose better-quality produce. Sometimes the retailer would pick the produce for consumers. In such situations, consumers could check the produce first or simply trust the retailer, relying upon an established personal relationship. Unpackaged (loose) produce also enabled participants to buy the quantity they needed or could afford, which was perceived to be an important advantage of wet markets (Goldman, Krider and Ramaswami 1999).

On the other hand, fresh items in supermarkets were mostly pre-packed, leaving consumers with little choice in quantity and size (Goldman, Krider and Ramaswami 1999). However, as consumers become more pressed for time, they tend to buy more packaged or convenience products (Skallerud, Korneliussen and Olsen 2009; Maruyama and Trung 2007).

In Pekanbaru, only a few high-income participants occasionally purchased pre-packed vegetables from hypermarkets. The emphasis was on practicality, as the vegetables were pre-cut or already mixed to make certain dishes. Even though they could not open the packaging, these participants believed that the hypermarkets wanted to protect their reputation by only selling high quality products.

"Sometimes I purchased pre-packed mixed vegetables in hypermarkets such as capcay because everything is there in suitable proportions. If we go to the wet markets we cannot buy each kind of vegetable in such a small amount" (FG1)

5.6.11 Freedom to look around with no obligation to buy

Even though the participants preferred to touch and inspect the fresh vegetables sold in the various stalls within the wet market, they did not enjoy the pressure from the vendor to purchase after checking the product. Therefore, the opportunity to look around without an obligation to buy was important for some participants. This attribute was seen as an advantage for the hypermarkets. Ihara (2013) has shown that some hypermarkets have recognized the need for consumers to walk in freely with the strategy of an open layout, unlike in a department store where shoppers were usually greeted by an imposing sales desk.

"In large supermarket/hypermarket it is ok if we do not buy, but in wet markets the seller sometimes looked unhappy when we decided not to buy" (FG1)

5.6.12 Impulse buying

Participants admitted the tendency to buy on impulse when visiting supermarkets/hypermarkets. Higher income participants visited hypermarkets on a monthly basis to restock dry goods, but when in-store, they often purchased some fruit and vegetables.

"I once purchased kangkong at the mall while window shopping...it looked good, fresh, then I purchased it, but I did not intend to go to mall for buying kangkong only" (FG5)

Low-income participants were more concerned about impulse buying due to their limited budget. Most of them visited hypermarkets for recreational purposes rather than for shopping, however their exposure to items in hypermarkets could lead to impulse buying. According to Amine and Lazzaoui (2011), financially constrained shoppers usually browse all the shelves and might buy some items on impulse if they find the price affordable.

5.6.13 Quick check-out/quick shopping

A quick check-out was expected by most participants in hypermarkets because they were not happy to wait to pay. Some participants tried to avoid the long queues by shopping at non-peak times. However, this was not always possible when both husband and wife were working. These participants could only go shopping on weekends, when retail outlets were usually very busy, and they were often forced to queue. According to Amine and Lazzaoui (2011), high-income consumers do not view shopping for food as leisure, but rather as a

utilitarian task. They try to save time by shopping for all of their needs in hypermarkets. The importance of an efficient check-out was also suggested by Chang and Luan (2010) as one of the store image attributes that shoppers often highlighted in relation to service at hypermarkets.

On the other hand, in the wet markets, participants only had to queue at a small number of favourite vendors. Therefore, some participants associated quick shopping with shopping in wet markets. They visited only those vendors they needed to visit, based on the products they intended to purchase. Some participants preferred to shop from street vendors around the entry to the wet market so they could make the process even quicker, even though these vendors often contributed to the congestion. According to Suryadarma *et al.* (2010), street vendors were considered competitors by the wet market vendors.

5.6.14 Closer location

The majority of wet markets in Pekanbaru are not within walking distance of most residential areas. Hence, in this study, the majority of participants had to use a vehicle to shop at both wet markets and hypermarkets. The distance of the market from consumers' place of residence is probably due to the development of residential neighbourhoods, which has ultimately drawn consumers away from the city centre (Omar *et al.* 2010). Participants with limited transport, therefore, preferred to shop for fresh produce from neighbourhood shops (*warungs*) or nearby temporary wet markets (*pasar kaget*). According to Napitupulu (2007), because of the bulky nature of the products, buying fresh produce from supermarkets was not convenient for consumers if they did not have a car.

Many participants preferred to shop from wet markets or hypermarkets that were closer to their residence, or those that were located en route to or from their place of work. According to Reinartz and Kumar (1999), location is the most important performance driver for a grocery store. Most participants in this study knew the range of food available in each wet market, and were sometimes willing to travel further to get what they needed. One participant mentioned that she could visit more than one wet market in one morning:

"My house is located in the middle of Arengka and Panam wet markets so I use them both in turn. However the sea fish in Arengka market are fresher and cheaper, so I mostly go there" (FG1)

"In each wet market I know what produce I am after, so I often visit three wet markets in one go and purchase some items from the three of them" (FG1)

5.6.15 Personal security/safety

For some participants, personal safety was a problem in the wet market due to its crowded condition. Wet markets are often plagued by pickpockets (Muharam 2001, cited in Lim *et al.* 2003), and others by the presence of beggars, even though one participant perceived the latter as an opportunity to be charitable. In modern retailers, consumers expect safer shopping conditions, as security is one of the most important attributes among frequent shoppers at the modern retail format (Carpenter and Moore 2006).

"Sometimes one beggar in wet market annoys me, because the old man often touches when begging for money, that is not polite" (FG1)

"If there are beggars I can give them money for charity" (FG2)

5.6.16 Habit

Food products are generally low-involvement purchases made with minimum effort, so people tend to spend as little time as possible buying these products (Park, Iyer and Smith 1989; Verhoef and Langerak 2001, cited in Picot-Coupey *et al.* 2009). However, several participants mentioned that they felt the need to visit wet markets because it was habitual behaviour. Due to the pressures of daily life, consumers often maintain their old behaviours (habits) of purchasing and consuming products, as this requires less cognitive effort (Wood and Neal 2009, cited in Olsen *et al.* 2013). Similarly, Hodgson (1997) found that complexity, uncertainty and the need to learn influence consumers to apply rules and habits. Habit is a significant determinant of food consumption and is developed through repetition (Petrovici and Paliwoda 2008).

"I like visiting wet markets and comparing the products. I think it is my habit" (FG1)

5.7 Factors influencing the purchase decision for fresh chicken meat

A total of 11 themes were identified as being most influential in participants' choice of retail store when purchasing fresh chicken meat (Table 5.9). These themes included: halal assurance; having a good relationship with retailers; good quality or freshness; self-select by hand; service; price; quantity purchased; location; convenience; impulse buying and variety of products available.

5.7.1 Halal assurance

Halal assurance was the main consideration for participants in deciding where to purchase fresh meat. This finding confirms previous research in Malaysia (Chamhuri and Batt 2009b), where the majority of respondents indicated the importance of meat's halal status in their choice of retail store. Most participants in this study had not purchased chicken or other meat from supermarkets or hypermarkets in the past because they were unsure about the halal status of the meat.

Table 5.9: Themes influencing consumers' purchase decision of fresh chicken meat

Themes	FG1	FG2	FG3	FG4	FG5	Wet markets	Hyper-markets/ super-markets
Halal assurance	√	√	√	√	√	√	
Relationship with retailers (trust)	√	√	√	√	√	√	
Quality/freshness/ healthiness	√	√	√	√	√	√	
Self-selection by hand	√	√	√	√	√	√	
Service	√	√	√	√	√	√	
Competitive price/ bargaining price	√	√	√	√	√	√	
Quantity purchased	√	√	√	√	√	√	
Location	√	√	√		√	√	
Convenience	√	√	√		√	√	√
Impulse buying				√	√		√
Variety of products			√		√	√	√

Participants in this study preferred wet market stalls or road-side chicken stalls close to their residence because these types of stalls provided slaughter on the spot. In this way, participants could be assured of the meat's halal status and they could always remind the seller to mention God's name before slaughter.

"I always buy chicken from slaughtering stall or wet market stalls. I never buy chicken in supermarket because I am doubtful about halal status of the chicken there" (FG1)

"Slaughter on-the-spot is best because I can remind the seller to mention God's name before slaughter" (FG1, FG2, FG3)

In Saudi Arabia, Tuncalp and Yavas (1990) concluded that consumers purchased meat from local livestock markets or from local butchers so that they could be assured that the fresh meat they were about to buy had been slaughtered according to Islamic customs. A recent study on Muslim-Arab consumers in Israel and Jordan also concluded that Muslim

consumers attach high importance to religious values, and are therefore more likely to shop for most of their food (specifically meat products) from traditional outlets (Hino 2010).

On-the-spot slaughter did not only apply to the purchase of whole chickens. When consumers wanted to buy a half chicken or chicken portions, they would only purchase from *warungs* or chicken stalls (in wet markets or road-side) where they could be sure that the retailers sold only halal chicken meat. In those cases in which they did not patronize vendors who sell live chicken, they would select a seller with a visible Islamic identity marker such as a headscarf.

5.7.2 Relationship with retailers

Many participants in this study had regular retailers in the wet markets or an established relationship with a roadside chicken vendor. Based on this relationship, they could get cheaper prices in exchange for their patronage (Expat Web Site Association 2010, cited in Agriculture and Agri-food Canada 2011). Some participants mentioned that they had a very close relationship with traditional sellers and that they greatly appreciated transacting with friendly vendors. A long-standing relationship with consumers is a strategic advantage for small retailers over modern retailers (Khare 2011).

"…live chicken, sometimes chicken pieces from my patronized chicken vendor. I trust them because I am a regular customer" (FG5)

More importantly, participants explained that a good relationship with the vendor was important, for it provided an assurance of the halal status of the chicken meat. Trust was all the more important when they did not purchase the chicken personally but had it delivered. Trust was also important when participants purchased a half chicken or chicken portions from *warungs*, because they did not see the slaughtering process. Therefore, they relied upon their trust in the *warung* operator's reputation.

The importance of trust in relation to the religious implications of meat consumption has been supported in previous studies. According to Chamhuri and Batt (2013a) and Bonne and Verbeke (2006), in the condition where formal certification is not readily available, consumers have to rely on their trust on their preferred butcher to provide halal assurance, because for meat to be guaranteed halal, it must be processed through a legitimate method of slaughtering.

5.7.3 Quality/freshness/healthiness

In general, participants viewed the wet markets as being the best retailers for fresh foods. As with kangkong (Section 5.6), they used the words "quality" and "freshness" interchangeably to describe the reasons why they purchased fresh meat from the wet markets. The participants mentioned that wet markets offered better quality, and for most participants, halal status related to food quality and safety. Karijin *et al.* (2007, cited in Alam and Sayuti 2011) reported that halal was an assurance of food quality.

As well as to guarantee halal status, many participants preferred to select the live chicken themselves before slaughter to make sure it was healthy. This concern was partly related to the previous spread of avian influenza in Indonesia as mentioned by one participant. Highly Pathogenic Avian Influenza (HPAI) first appeared in Java in 2003 and since 2006 it has been considered to be endemic (Sumiarto and Arifin 2008).

The ability to select healthy live chicken for halal slaughter may be the reason that one participant commented that wet markets provided more hygienic conditions for chicken, despite participants' general complaints that wet markets were dirty. Purchasing live chicken was critical for participants to guarantee freshness and food safety.

To ensure quality, fast product turnover was important for most participants. They preferred chicken stalls with good stocks of live chicken to ensure availability. They also preferred to purchase from *warungs* that were supplied daily from slaughter chicken stalls so that the meat was still fresh. Most participants considered the 'dead' chicken (frozen or cold chicken carcasses) sold by modern retailers not to be fresh.

"I also never do that (purchasing chicken from modern retailers), as I am worried that the chicken is not well-slaughtered, and it is actually a carrion chicken which is iced-up" (FG1)

This was similar to the findings of Zhang (2002) for Shanghai consumers, where the purchase of live chicken was preferred in six out of every ten purchases, while chilled chicken was preferred in three out of ten purchases and frozen chicken in only one out of ten purchases, respectively For many Asian consumers, "fresh" is used to identify a product that has come straight from the farm (Veeck and Veeck 2000). For the few participants who had some experience in buying cold chicken from hypermarkets, the chicken smelled unnatural and the taste after being cooked was perceived as not being so good, so they were unlikely to buy again.

5.7.4 Self-selection by hand

Self-selection was important to choose a healthy live chicken. Most participants explained that on-the-spot slaughter was the best option because they could select healthy live chickens according to the size that they needed. They would ask the retailer to slaughter and dress the chicken. Touching the chicken by hand was also important if the participants had the dressed chicken delivered: if it was warm, this meant that the chicken was freshly slaughtered. If they could not purchase a live chicken or could not rely on trust, for example if they were buying from a random (non-patronized) chicken vendor, the participants had to check the dressed chicken by hand to ensure that it was of the best quality or freshness possible. This was partly due to many problems in the traditional wet markets, such as *tiren* chicken (carrion chicken) and *glonggongan* chicken (chicken injected with water to make it heavier) (Satriana 2013).

5.7.5 Service

Participants viewed quick service as being very important in purchasing chicken as the product was perishable. Other than week-end purchases in wet markets, they also purchased from road-side chicken stalls, which were generally closer to home. In both cases, they usually asked the vendor to clean the chicken and cut it into pieces after slaughter, according to the way in which they intended to cook the chicken. Some participants even asked the vendor to skin the chicken. The price was higher if participants wanted to have the chicken dressed.

"(I purchased chicken meat) from the largest chicken slaughterhouse in Rumbai. I always go there because it opens daily, the place is a large scale chicken butcher, many employees, the service is fast and clean" (FG1).

Other services included a delivery service, with most road-side chicken stalls providing a delivery service to surrounding areas. Joseph and Soundararajan (2009) confirmed that home delivery was an important attribute for traditional retail outlets to maintain their competitive edge.

5.7.6 Competitive price/bargaining price

Chicken meat accounts for 84% of the total meat consumption in Indonesia (The Poultry Site 2010; KPPU 2010). However, the consumption of chicken meat per capita in Indonesia is

very low-3.9 kg per person per year compared to neighbouring countries such as Vietnam (6.1 kg per person per year) or Malaysia (37.3 kg per person per year) (The Poultry Site 2010) .

This low per capita consumption relates to the high price of meat. For most Indonesian consumers, a typical meal is comprised of steamed rice with vegetables, *sambals* (chili condiments) and dishes such as *tempeh*, tofu and fish. Meat is consumed only occasionally (Johnson, Weinberger and Wu 2008; Smith and Dawson 2004; Agriculture and Agri-food Canada 2011). In this study, half of the participants seldom purchased chicken meat due to the high price.

The price of broiler chicken during the survey time was IDR 15,000 - 20,000 per kg, while free-range chicken was more expensive at IDR 40,000 per kg. Prices were even higher during religious occasions such as the fasting month, when the price of broiler chicken could increase to IDR 30,000 per kg.

In many countries, consumers enjoy the experience of bargaining, believing that by doing so they will receive a more reasonable price. For many, this is a major motivator to shop from smaller retail outlets (Khare 2011; Chamhuri and Batt 2009a). In this study, participants buying from the wet markets enjoyed the opportunity to bargain, whereas prices in the modern retailers were fixed. One participant mentioned that she preferred to purchase chicken from road-side chicken stalls because she could bargain the price down.

"I buy chicken at roadside chicken grocer because it's fresh/alive/healthy and also cheaper such as IDR 16,000/kg can be reduced to IDR 13,000-14,000/kg, because of the close relationship with the vendor" (FG4)

5.7.7 Quantity purchased

Some participants purchased one whole chicken 1-2 times a week, while others with less income purchased occasionally or seldom and in smaller quantities (half chicken carcasses or cuts). When they needed smaller quantities (a half chicken or portions) because they had a limited budget, because there were fewer children at home, or because one whole chicken was simply too much for them, participants would buy from *warungs*. The ability to buy the quantity they needed, or could afford, was perceived to be an important advantage for traditional retailers (Booz-Allen Hamilton 2003, cited in Vorley, Fearne and Ray 2007; Goldman, Krider and Ramaswami 1999).

"If I am only able to buy half of them, I buy the pieces one at warung. But at some warungs, the seller allows us to buy live chicken even though only buy half chicken" (FG4)

5.7.8 Location

Participants also considered the location of retailers. Other than wet markets, they purchased chicken from road-side chicken stalls because these stalls were closer to home.

"(I purchased chicken from) slaughter house, it is practical because closer to my house" (FG2)

Warungs were also an option for urgent needs or when they could not go to wet markets because it was raining, or because a participant seldom cooked at home. According to Maruyama and Trung (2007), distance is more important when purchasing fresh food than when purchasing other types of foods. Their study showed that in Vietnam, the close proximity of traditional markets was one of the main factors supporting the continued dominance of traditional markets. Chamhuri and Batt (2009a) noted that consumers had been going to the same wet markets for a long time as these markets were close to where they lived. However, the majority of participants in this study were not within walking distance of the wet markets. They therefore opted for nearby road-side stalls or *warungs* for quick purchases of chicken. Van Kenhove et al. (1999) and Van Waterschoot *et al.* (2008)(cited in Tinggi, Jakpar and Padang 2012) also concluded that store choice was determined by the nature of the task; urgent purchases generally encouraged the consumer to purchase from the nearest store.

Some participants relied almost entirely on *warungs* for their cooking needs, including fresh chicken. Some working mothers with higher incomes but fewer family members, perceived proximal *warungs* to be more economical, because it saved both their time and the cost of travel to wet markets.

5.7.9 Convenience

Other than location, convenience also means convenient packaging and preparation of food. According to Agriculture and Agri-food Canada (2011), busy urban Indonesians have less time for the preparation of meals at home, so they are increasingly purchasing products that are conveniently packaged and easy to prepare. Similarly, Trappey and Lai (1997) confirmed that supermarket customers were more likely to be attracted by time-saving products such as

processed and pre-packed foods as they were busy and supermarkets satisfied the needs of a faster-paced lifestyle.

"Buying chicken from supermarket make me a bit worry except for sausages, nugget, it is alright to buy them, especially for products with halal stamp from MUI (Indonesian Muslim Scholar Committee)" (FG3)

In this study, most participants were not interested in purchasing pre-packed chicken sold by hypermarkets and supermarkets. This was because, as mentioned previously, they doubted the halal status of the product. They preferred to purchase from chicken stalls (in wet markets or road-side) for their main purchases and from *warungs* for small or urgent purchases. They had the chicken slaughtered in the chicken stalls, dressed, and then cut into pieces according to the way in which they intended to cook the meat. Participants mentioned that they were satisfied with the ability to purchase personalized chicken cuts because they could just wash and cook the chicken at home. They preferred traditional outlets for obtaining fresh, halal meat, and for these traditional outlets, convenience mostly related to the personalized service provided by the vendors.

While the majority of participants were not interested in purchasing fresh meat in convenient packaging, some were starting to buy frozen or preserved processed meat from modern retailers. In Indonesia, the sales of frozen food and canned or preserved food grew by 10% in 2009 (Euromonitor International 2010, cited in Agriculture and Agri-food Canada 2011). Some participants who were working mothers with young children purchased processed meat products such as chicken or beef sausages and nuggets from hypermarkets, but they did check the package to ensure that it had a halal logo on it before purchasing. Hino ("Indonesia Market Data at a Glance" 2010) noted that large modern retail stores often carried a full assortment of packaged and processed food lines, but in many cases, their halal status was questionable, for processed products often contained ingredients that were non-halal.

Other than processed meat, many participants also purchased ready-to-eat chicken and pre-cooked meat from a variety of food stalls because they did not have the time to cook. According to Forshee (2007) and Koene (1996, cited in Agriculture and Agri-food Canada 2011), quick and convenient meals are very popular among Indonesians and are widely available from inexpensive road-side stalls or Padang-style restaurants for dine-in or take-away.

5.7.10 Impulse buying

Some participants purchased pre-packed chicken from hypermarkets because they (and sometimes their children) were attracted by the colour of the seasoning applied to the chicken.

"The other day I tried to buy the pre-packed marinated chicken pieces, just by chance. Sometimes my kids looked at the nice packaging and they wanted to buy" (FG5)

As impulse buying related to unplanned buying, some participants mentioned that they were not satisfied with the quality of the pre-packed chicken purchased from hypermarkets. However, Hultén and Vanyushyn (2011) concluded that about 70% of the decision to purchase food products is made in-store. Impulse buying may therefore lead to the greater purchase of fresh meat from modern retailers. Some Muslim consumers already assume that all meat sold in well-known hypermarkets is halal, while others put a priority on convenience. Kaynak and Kara (2002) and McDaniel and Burnett (1990, cited in Hino 2010b) have reported significant differences in shopping patterns within religious groups among more and less religious consumers.

5.7.11 Variety of products

Those participants who did purchase chicken from hypermarkets did so because they wanted a large quantity of a certain portion of chicken, for example chicken wings, chicken drumsticks, or chicken livers. Many participants mentioned that their children preferred certain parts of the chicken, usually the chicken thighs. This cut was not available in the traditional chicken stalls as chicken was sold whole, and in the *warungs*, although chicken portions were available, the quantity available was only small. This is consistent with the findings of Walker (1996) who demonstrated that housewives were more likely to purchase from supermarkets when they needed a special cut of meat, as this special cut or portion was not available from traditional retailers.

"In supermarket we can choose one pack of thighs/drumsticks, but the price is a bit high" (FG5)

For the wet markets, the variety of products meant that the participants could choose to purchase chicken from the many chicken stalls there, while for independent/roadside chicken stalls, it meant choosing live chickens of the desired size.

5.8 Comparison of themes attracting consumer to purchase three products

Several differences emerged between the three products in regard to the importance of the themes that participants considered when choosing where to purchase the products under study (Table 5.10).

When talking about the purchase of cooking oil, the participants mostly focused on the choice between bulk and packaged cooking oil. This can be seen from the product-related themes such as cleanliness/transparency, taste, packaging, healthy/low cholesterol and economy of use. However, when talking about fresh kangkong and fresh chicken meat, participants mainly referred to store-related themes regarding the choice between wet markets and hypermarkets.

Table 5.10: Themes attracting consumers to purchase cooking oil, kangkong and chicken

Themes	Cooking oil		Kangkong		Chicken	
	Bulk cooking oil (mainly sold in *warungs*)	**Packaged cooking oil (mainly sold in modern retailer and independent wholesaler)**	**Wet markets**	**Hyper-markets/ Super-markets**	**Wet markets**	**Hyper-markets/ Super-markets**
Cleanliness/ transparency	√					
Taste		√				
Practical packaging/ pre-pack		√		√		
Health/ cholesterol concern		√				
Economy of use		√				
Lower, affordable price	√		√		√	
Impulse buying		√		√		√
Promotional offer/price discounts		√				
Availability of small quantities	√				√	
Freshness			√		√	
Variety of products			√		√	√
One-stop shopping			√	√		
Social interaction/ know the seller (trust)/ support national product			√		√	
Closer location			√		√	
Halal assurance					√	

Table 5.10: Themes attracting consumers to purchase cooking oil, kangkong and chicken (contd).

Themes	Cooking oil		Kangkong		Chicken	
	Bulk cooking oil (mainly sold in *warungs*)	**Packaged cooking oil** (mainly sold in modern retailer and independent wholesaler)	**Wet markets**	**Hyper-markets/ Super-markets**	**Wet markets**	**Hyper-markets/ Super-markets**
Convenience (in shopping and food preparation)				√	√	√
Layout/ product arrangement				√		
Personal security/safety				√		
Freedom to look around with no obligation to buy				√		
Clear price tag				√		
Parking			√	√		
Quick check out/quick shopping			√			
Service					√	
Habit			√			
Unpacked/ self-select			√		√	

Price and impulse buying were two themes that emerged for all three products (cooking oil, kangkong and chicken). For all three products, a low price was associated with traditional retail outlets, while impulse buying was mainly associated with hypermarkets or supermarkets, where participants sometimes purchased cooking oil, fresh vegetables or cold chicken as a result of visiting a hypermarket for leisure purposes.

As cooking oil is a basic daily cooking need, and because it is relatively expensive, the availability of promotional offers (price discounts) was an important consideration for the packaged cooking oils. Promotion influenced both low- and high-income participants. For kangkong, however, while discounts were not mentioned as such, some participants

deliberately delayed their visits to temporary (half-day) wet markets so that they could capture discounted prices prior to the close of trading. For chicken, price discounts did not emerge, because based on the participants' experiences, no price discounts were offered by the traditional retailers where they usually purchased chicken. Participants could, however, bargain for a lower price.

For both cooking oil and chicken, which were relatively expensive, the ability to purchase in small quantities (e.g., a quarter litre for bulk cooking oil or half-carcass for chicken) had a major influence on the place of purchase.

For both of the fresh foods, kangkong and chicken, the freshness, the variety of product, the location and the social interaction had a considerable influence on the participants' choice of retail store. One-stop shopping emerged as a factor in purchasing kangkong. Due to its low price, participants preferred to purchase kangkong as a part of their routine shopping. However, for the more expensive items, participants were willing to visit a hypermarket (for cooking oil) or a chicken stall or shop (for fresh chicken meat) to purchase them at a lower price.

Halal assurance was the main consideration for participants in deciding where to purchase chicken meat. However, in Malaysia, some participants expressed concerns about the use of pig or poultry manure in fresh vegetable production, which not unexpectedly influenced their decision on where to buy fresh vegetables (Chamhuri 2011). In this study, similar concerns did not emerge because pig manure is not readily available in Indonesia.

Some themes relating to hypermarkets only emerged when discussing the purchase of fresh vegetable (kangkong): convenience, shopping environment or layout, personal security, freedom to look around and a clear price tag. This was in comparison to the dirty, messy and unsafe wet markets where most participants purchased fresh vegetables. Participants enjoyed the opportunity to look around in hypermarkets without the pressure of purchasing, but wanted clear price tags so they did not end up paying more than what they expected at the check-out.

Parking was considered important in the purchase of kangkong in both wet markets and hypermarkets. This was because the majority of participants had to use a vehicle to go to both hypermarkets and wet markets. Motorbikes were preferred in travelling to the wet markets because they could be parked very close to the shopping area. Quick shopping was associated with the wet markets, because participants only visited vendors according to their

needs, while in the hypermarkets, participants often had to queue for a long time at the check-out.

Service was an important factor in purchasing chicken from wet markets. In hypermarkets, service meant getting help from the sales assistant, while in the wet market, chicken stalls were expected to slaughter, dress and cut the chicken into the desired portions.

Habit emerged as a theme in purchasing fresh vegetables from wet markets, due to participants' routine of visiting wet markets on a regular basis. Habit was not mentioned by participants when they talked about the purchase of cooking oil and chicken. This may indicate that for the participants, the purchase of vegetables was a low-involvement decision, while cooking oil and chicken were higher-involvement purchases.

Unpacked product and self-selection by hand emerged in purchasing fresh vegetables and chicken meat in wet markets. Even though kangkong and some other vegetables were usually tied into bunches, participants preferred to self-select the freshest bunches available. This theme did not emerge in the hypermarkets as most produce was pre-packed. Touching or selecting the chicken by hand was mentioned by the participants in relation to selecting live healthy chicken for on-the-spot slaughter, or in checking the freshness of dressed chicken.

5.9 Summary

The results of these focus group discussions support previous research suggesting that the majority of Indonesian consumers do cross-shop across modern and traditional retail food stores. However, while the majority of the participants in this study patronized several retail stores, a few others used only a single store. This was due to economic constraints (income, transportation) or preference (for example, some consumers might rarely cook at home and therefore prefer to shop from a *warung* within walking distance).

Previous studies have concluded that consumers shop almost daily from a wet market within walking distance to their home (Chamhuri 2011; Bai, Wahl and McCluskey 2008). In this study, participants lived further away from the traditional wet markets, so they needed to use a vehicle to travel there. As a result, they mostly shopped from wet markets on a weekly basis and used small neighbourhood stores (*warungs*) or temporary half-day markets, which were closer to their homes, for urgent daily needs. The emergence of these temporary half-day markets in residential areas has not been noted in the literature to date. Similarly,

hawkers or peddlers who are significant retailers for fresh fruit and vegetables in Java (Minot *et al.* 2013; Napitupulu 2007) were only reported in some residential areas by participants in this study.

The findings suggested that for the purchase of dry foods (in this case cooking oil), both traditional and modern food retail stores were important. For bulk cooking oil, the main advantages of the w*arungs* were the ability to purchase in small quantities and the lower price. Independent retailers (either located inside a wet market or roadside) were mentioned as the main place to purchase branded packaged cooking oil, together with minimarkets and hypermarkets.

Sheeraz, Iqbal and Ahmed (2012) have suggested that for fast-moving consumer goods (FMCG), brand plays an important role in purchase intentions and has a strong positive influence because these purchases are based on past experience and credibility. However, prior research has suggested that Indonesian consumers are not generally brand loyal, because the decision to purchase is largely based on value for money (Planet Retail 2008 cited in Ridley 2009; Rangkuti and Slette 2010). This is confirmed by the findings of this study, as all participants mentioned that they did not pay much attention to the brand of the cooking oil, partly because bulk cooking oil has no brand, and that for packaged cooking oil they generally chose the cheapest product.

Inman, Winer and Ferraro (2009, cited in Olavarrieta *et al.* 2012) concluded that shoppers made the majority of brand choice decisions inside the store. In this study, the participants who usually purchased branded packaged cooking oil were able to mention two to three different brands that they often purchased, including *Fortuna, Filma, Bimoli, Sania, Mitra, Madina* and the Giant home brand. However, the primary reason for most brand choice was the lowest price at the time of purchase.

The themes identified as influencing the purchase of packaged cooking oil were better taste, clean, healthier (low cholesterol), practical packaging and more economy of use. Modern retailers offered the advantage of promotional offers (price discounts by hypermarkets, and lottery coupons or reward points by minimarkets). Impulse buying influenced many participants, but for others it presented a deterrent, for what the participants might save in buying cooking oil, they were likely to spend on other, more expensive things such as snack foods for children.

Many of the independent minimarkets mentioned by participants as a place from which they purchased dry foods had been refurbished or converted from traditional road-side shops (independent grocers or wholesalers) with the addition of a self-service system. This might be seen as a sign of the resilience of the traditional retailers in addressing the competition from modern self-service retailers. However, the opening of *Indogrosir*, which specializes in packaged dry goods and some *Indomaret* minimarket chains in Pekanbaru city at the beginning of 2013, is an indication that competition for dry goods will become even more intense in the future.

For fresh vegetables (kangkong), the themes that emerged as encouraging purchase from the traditional wet markets and temporary half-day markets (*pasar kaget*) were lower prices, freshness, variety of products, one-stop shopping (many vegetable stalls to choose from), social interaction, close location, free parking, quick shopping, habit and unpackaged produce. Most participants purchased kangkong and other vegetables on a weekly basis from wet markets or temporary markets, then replenished their supplies from *warungs* before next visiting the wet markets. For the hypermarkets, the themes that emerged encouraging participants to buy fresh vegetables were practical packaging (pre-packed produce), impulse buying, one-stop shopping (greater choice in packaged goods), shopping convenience (clean, air conditioned environment), layout, security, freedom to look around, clear price tag and parking facilities.

For fresh chicken, traditional chicken stalls (independent or inside a wet market) were the principal place of purchase. The themes that emerged as being advantageous for this format were the lower price, the ability to purchase in small quantities, freshness, the variety of products (choice of live chicken size), social interaction or trust, close location, halal assurance and convenience (personalised service). Related to halal assurance, a preference for on-the-spot slaughter was identified. However, other themes were associated with the purchase of fresh chicken from hypermarkets: impulse buying, variety of products (certain chicken portions) and the convenience of processed chicken meat.

Regarding socio-demographics, both younger and older participants are likely to purchase fresh vegetables and chicken from traditional food retailers. However, high-income participants and working women are more likely to visit hypermarkets for their monthly supply of dry foods. Religion also influenced store choice for meat and meat products, as participants indicated that halal assurance was the main priority when choosing a food retail store. Similarly, Kirkup *et al.* (2004) concluded that the perceived range of available stores

could be influenced by dietary restrictions, situational factors and perceptions of personal mobility.

This study provides a basis for identifying the themes found to influence consumers' choice of retail store. To some extent, the findings here support previous research findings regarding selective adoption phenomena (buying fresh food from traditional wet markets and dry foods, such as cooking oil, from modern retailers). This was more obvious for more affluent participants. For low-income participants, the findings in this study support the role of traditional food retailers (*warungs*, independent grocers and wet markets).

The influence of the product category on selective adoption was shown in the variety of themes that emerged for the purchase of cooking oil (dry processed food category), chicken (fresh meat/semi-processed category) and kangkong (fresh food category). This supports previous research that consumers express different views on different product attributes (Ali, Kapoor and Moorthy 2010) and rate various attributes differently for different product categories (Gupta 2009).

The themes identified in this preliminary research stage regarding the retail store attributes associated with the three distinct product categories (cooking oil, chicken and kangkong) are incorporated into a questionnaire for the consumer survey to address the determinants of cross-shopping behaviour in the next chapter.

CHAPTER 6

QUANTITATIVE RESEARCH METHODOLOGY

6.1 Introduction

In this chapter, the second phase of the two-stage sequential exploratory research approach - the quantitative consumer survey – is presented. The research design and sampling are first presented in Section 6.2, followed by the questionnaire design (Section 6.3). The chapter then describes the translation and pilot test procedure and ethics approval (Section 6.4), followed by the data collection process (Section 6.5) and the statistical techniques used to analyze the data (Section 6.6). Section 6.7 summarizes the chapter.

6.2 Quantitative methodology

6.2.1 Research Design: Quantitative research method

This study sought to describe consumers' attributes and preferences with regard to their decision to purchase three discrete food products: cooking oil, fresh chicken meat, and fresh vegetables (kangkong). Through this, it was aimed to gain an insight into the many variables that influenced consumers' cross-shopping behaviour between traditional and modern retail stores. According to Babbie (1990), a quantitative survey is the best way to obtain the information needed to make descriptive and explanatory assertions about a population. A quantitative survey is an information collection method that is primarily used to generate primary data (Coles, Duval and Shaw 2013), and is the most common method used to investigate topics in the social and behavioural sciences (Vogt 2007). Surveys provide a flexible method of collecting basic information about people – such as demographic characteristics – or to elicit data on opinions, attitudes and perceptions (Coles, Duval and Shaw 2013), and values, preferences and behaviour (Fink 2013). Other justifications for selecting a quantitative survey include: (1) the data is not otherwise available; and (2) respondents can be expected to provide reliable information on the research topic (Vogt 2007). For this study, as data about consumer shopping behaviour and preferences were not available from any public records, and as respondents were expected and assumed to be able to give reliable information (as food shopping was not considered a sensitive topic), a quantitative survey was deemed appropriate.

A quantitative survey allows data to be collected from a large number of respondents. According to Van der Velde, Jansen and Anderson (2004), quantitative data are relatively easy to process, and quantitative surveys are relatively efficient in terms of time and money. A survey can be administered through four different modes: (1) personal interview (face-to-face interview); (2) telephone interview; (3) mail survey (paper-based surveys sent out to respondents); and (4) online or web-surveys (Mooi and Sarstedt 2011; Collis and Hussey 2009; Oishi 2003).

Personal interviews are the most expensive to conduct per respondent, and tend to take long in obtaining the desired information (Mooi and Sarstedt 2011; O'leary 2004). This type of interview may also be affected by interviewer bias (O'leary 2004). However, personal interviews are considered more cost-effective than telephone surveys for determining grocery shopping habits (Baltas and Papastathopoulou 2003), because they allow the researcher to engage with the respondent and thus to explain a range of product attributes (Hult, Keillor and Hightower 2000). The presence of an interviewer can also enhance interviewer-respondent rapport, which greatly assists in achieving cooperation, thus improving the quality of the data (McGivern 2006; Oishi 2003) and achieving a higher response rate (Oishi 2003).

There are some concerns with other survey methods regarding population coverage and low response rate. For instance, mail surveys generally have a very low response rate (about 10 percent) (Mooi and Sarstedt 2011) and at best, can be 20 to 30 percent (Coles, Duval and Shaw 2013). Internet-based surveys are quicker and cheaper, but response rates can also be quite low, at around 10 to 20 percent (Coles, Duval and Shaw 2013). Moreover, in Indonesia, internet access is limited to about 20 percent of the population, and internet users are mostly aged between 15-19 years (Halewood and Kenny 2007). Regarding telephone interviews, Mooi and Sarstedt (2011) identified two concerns: first, that they have limited coverage because more people are dropping their landline in favour of a mobile phone; and second, that mobile phone users are younger and have higher education than consumers in general.

In addition to their ability to glean the best potential coverage of the general population and have higher response rates, the advantages of personal interviews include: (1) that they work best for long or complex questionnaires (Mooi and Sarstedt 2011; Oishi 2003); (2) that they provide the best mode of data collection for open-ended responses (Mooi and Sarstedt 2011); and (3) that it is easier for respondents to consider all of the response options because the interviewer can present visual aids (Oishi 2003). These characteristics of personal

interviews were considered beneficial in eliciting participation from potential respondents in a food shopping survey.

For this study, the survey instrument was quite large as it included open and closed response questions and a list of product and store attributes, taking a total of approximately 30-45 minutes to complete. Considering the length of the instrument, the quantitative consumer survey for this study was administered by personal interview using a structured questionnaire.

6.2.2 Sampling Design

A population can be seen as a group of people under consideration for statistical purposes and about which the researcher wants to make some judgements (Collis and Hussey 2009). Alternatively, it can be viewed as the entire set of units to which the findings of a survey are to be extrapolated (Levy and Lemeshow 2008). These units can be individuals, households, customers, or companies in an area (Mooi and Sarstedt 2011; Stevens *et al.* 2006).

When a research project surveys all of the members of a population, this is described as a census (Stevens *et al.* 2006). However, a census is expensive (Zikmund *et al.* 2011), and in the absence of a reliable sampling frame it is often impractical or impossible to examine an entire population (Walter 2013). When it is not considered feasible to obtain information from everyone in a population, sampling is an option (Veal 2005). This is the case with this study in Riau Province, as not everyone is engaged in the decision to purchase food for the household. Therefore, a sample enables the researcher to gather information from a group of population who are the most influential in making the decision to purchase food.

According to Stevens *et al.* (2006), the most significant advantages for selecting a sample over a census are: (1) minimizing the field survey cost; (2) time savings; (3) that more in-depth information can be obtained from a smaller group within a population; and (5) less total error (because greater overall accuracy can be gained by using a sample administered by well-trained and supervised enumerators).

After a researcher decides to sample the population, the next decision is whether to employ a probability or non-probability sampling procedure (Stevens *et al.* 2006; Gofton 1997). This decision influences the degree to which the results from the study can be generalized to the broader population (Vogt 2007). A major advantage of probability sampling is that it allows the findings from a smaller sample to be generalized to the population with a known or

predetermined degree of accuracy or margin of error (Walter 2013; Collis and Hussey 2009; Iarossi 2006). Probability sampling techniques select respondents randomly from a sampling frame, eliminating error related to researcher bias in selecting respondents (Zikmund *et al.* 2011).

For probability (random) sampling, the most commonly used approaches are simple random sampling, cluster sampling, stratified random sampling (Mooi and Sarstedt 2011; Stevens *et al.* 2006; O'leary 2004), and systematic sampling (Zikmund *et al.* 2011; Stevens *et al.* 2006; O'leary 2004). In general, probability sampling is considered more time-consuming and expensive (Levy and Lemeshow 2008), and these constraints often lead the researcher to opt for non-probability sampling.

Non-probability sampling does not employ procedures to select sample units by chance (Stevens *et al.* 2006). The most common non-probability sampling techniques are convenience sampling, judgement sampling, and quota sampling (Stevens *et al.* 2006; Zikmund *et al.* 2011). This type of sampling is often cheaper and more practical than the alternatives (Zikmund *et al.* 2011). However, for a non-probability sample, the data cannot be used to make conclusions beyond the sample because there are no appropriate statistical techniques for measuring random sampling error from this type of sample (Zikmund 2003). Due to the fact that these samples cannot be statistically assessed for representativeness, some researchers view non-random samples as inferior (O'leary 2004). In spite of that, convenience sampling is widely used in marketing research (Zikmund *et al.* 2011; O'leary 2004). In fact, for some research topics, non-probability samples are considered more suitable (Zikmund 2003).

Other than the generalizability of the results, decisions on selecting between probability and non-probability samples are generally based on considerations such as the researcher's expertise, time, funding (Andres 2012) and physical practicalities (Allison *et al.* 1996). Due to the large size of the population and the need to generalise the findings to the population of consumers in the Riau Province area, this study used probability sampling in form of systematic selection (interval sampling). According to FAO (2016), this sampling is used when a stream of representative people are available such as shoppers in a particular store.

6.2.2.1 Target Population

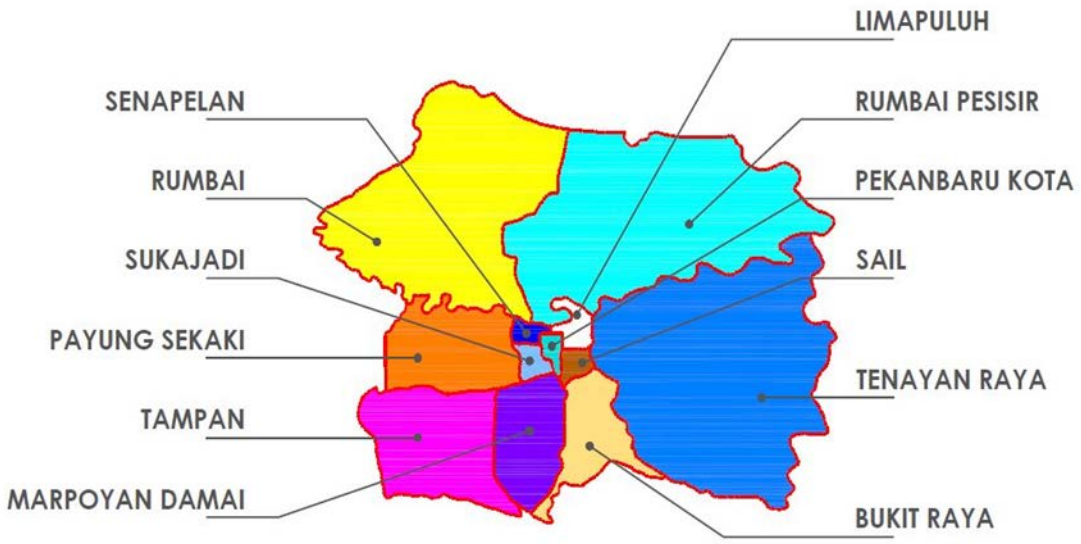
The target population for this study was all consumers in Riau Province, which consists of 12 districts including Pekanbaru City (Figure 6.1). Based on the Population Census 2010,

the population of Riau Province was estimated to exceed 5,929,170 people. As the centre of Riau Province, the majority of people were concentrated in Pekanbaru City, with an estimated population of 964,560 (16.3% of the total population of Riau Province) (BPS Riau 2010). As hypermarkets are only located in the city, the survey was conducted in Pekanbaru City.

Source: Dinas Pendidikan Provinsi Riau (2013)

Figure 6.1: Map of Riau Province

The District of Pekanbaru City consists of 12 *kecamatan* (suburbs): Rumbai, Rumbai Pesisir, Tenayan Raya, Payung Sekaki, Senapelan, Lima Puluh, Pekanbaru Kota, Sukajadi, Sail, Tampan, Marpoyan Damai and Bukit Raya (Figure 6.2).



Source: BPS Kota Pekanbaru (2012)

Figure 6.2: Map of Pekanbaru City

For most consumer goods, the household is the primary purchasing unit (Quester, Pettigrew and Hawkins 2011). As this study is about food shopping behaviour, the respondents were viewed as the representatives of their household. According to Ricciuto, Tarasuk and Yatchew (2006), food purchasing decisions at the household level are important determinants of food consumption, because food choice is not solely an individual decision but are influenced by the family context. Similarly, Ho and Tang (2006) noted that the majority of food shopping behaviour studies considered food shopping practices to be related to family food consumption.

Allison *et al.* (1996) suggested that in collecting data from a household, only one person needs to be interviewed, because attitudes are generally similar within a household. Interviewing multiple people within the same household will mean the samples are no longer independent samples, so would not be considered reliable. According to Gofton (1997), in order to provide reliable information regarding households, researchers can sample the decision-maker to make inferences about the behaviour of the entire population.

To select respondents who are able to represent their households for food shopping and fulfil criterion required by Curtin University Ethics Approval Board, the enumerator asked some screening questions. Shoppers were first assessed to make sure that they were over the age of 18. The enumerator then asked four questions to ensure the following: (1) the respondents

must be responsible for making food shopping decisions; (2) they must do a large proportion of the actual food shopping (Ali, Kapoor and Moorthy 2010; Domínguez 2007); (3) they must regularly buy all three food products under study (cooking oil, chicken, and kangkong), and (4) they must reside within Riau Province. If respondents met the criterion and expressed their willingness to participate, they were included in the survey.

6.2.2.2 Sampling Technique

Previous research (Australian Trade Commission 2010; Rangkuti and Slette 2010; KPMG 2006; Kamath and Godin 2001) have also suggested that there are distinct differences between consumers who shop at traditional wet markets and those who shop at modern supermarkets and hypermarkets. The preliminary results of this study demonstrated that the majority of consumers exhibited cross-shopping behaviour across modern and traditional retail food stores. More specifically, the majority of consumers exhibit selective adoption behaviour, as they mostly purchase fresh food from traditional wet markets and dry and durable food from modern retailers (mainly hypermarkets).

In a situation where the researcher needs to focus on a specific group of the population, a stratified sample may be considered more suitable than a simple random sample (Zikmund *et al.* 2011). In this method of sampling, after the population has been divided into different homogeneous groups (strata) based on some sample characteristics, the researcher randomly selects samples from each of the strata (Fink 2013; Mooi and Sarstedt 2011; Zikmund *et al.* 2011).

Consumer populations may be stratified by gender (Thompson 2012; Zikmund *et al.* 2011; Allison *et al.* 1996), by age (Allison *et al.* 1996), by geographic region or socioeconomic factors (Thompson 2012). The survey locations were selected to minimize the potential confounding effects of location: it is well known that the place or region of residence is often associated with a number of other socioeconomic indicators. For example, Johnston, Rodney and Szabo (2012) concluded that consumers in different cities and neighbourhoods exhibit specific ways of consuming. Stewart *et al.* (2004, cited in Mehmood & Rehman 2010) also suggested that region or location influenced consumers' decision-making. This in turn may relate to similarities in infrastructure access and location-related lifestyle attributes (Fan *et al.* 2007). For this study, the consumer survey was conducted in Pekanbaru City to make sure that the respondents had access to both traditional wet markets and hypermarkets.

The main steps involved in selecting a random sample are to: (1) define the target population; (2) develop a sampling frame; (3) choose a sampling technique; (4) determine the minimum sample size; and (5) decide on how to generalize sample data to the general population (Collis and Hussey 2009).

Researchers do not always have an accurate list available from which to select respondents (Zikmund *et al.* 2011). In this study, as a sampling frame – a list of the population members – was not available, the chosen alternative was to select the sample by interviewing every n^{th} consumer passing a point in a survey location (Stevens *et al.* 2006). Then structured questionnaires were administered in this study through a shopping mall-intercept technique.

A shopping mall intercept is considered the most appropriate sampling to achieve the research objectives in the field of consumer shopping habits and consumer behaviour (Delgado-Ballester, Hernandez-Espallardo and Rodriguez-Orejuela 2014), as the respondents are able to better relate to the research topics in a food shopping environment (Sweetin *et al.* 2013, cited in Phau, Huimin and Chuah 2015). However, as not all households in the survey area has an equal chance of being interviewed, some researcher categorized mall-intercept technique as non-probability (convenience) sampling (Argan, Argan and Akyildiz 2014) or quasi-random sampling (Cheah *et al.* 2015; Delgado-Ballester, Hernandez-Espallardo and Rodriguez-Orejuela 2014).

On the other hand, other scholars consider mall-intercept technique as one type of random sampling method. According to Hair, Bush and Ortinau (2003), this alternative person-administered interview (often called a shopping mall-intercept interview), where mall shoppers are randomly stopped and asked to participate. This procedure is considered to be the most appropriate for collecting shoppers' data (Jamal *et al.* 2006) and for capturing the characteristics of the shopper population (Farrag, El Sayed and Belk 2010).

FAO (2016) clarifies that mall-intercept method is classified as non-probability (purposive) sampling when respondents were non-randomly selected based on a pre-defined fixed quota. The example of this non probability mall-intercept was applied by Levy, Fein and Schucker (1996), where they set the quotas for shoppers at eight shopping malls based on age, race, income and education in their study about food labeling. This study, however, did not set quota based on demographics but focussed on the coverage of shoppers at both modern and traditional food retailers. Therefore, this study applied mall-intercept (interval) sampling which has been widely used in consumer studies from both hypermarkets and traditional wet

markets and the use of interval of every n^{th} shopper was applied as a means of averting sample bias.

Shopping mall-intercept interviews generally gain access to potential respondents within a short period of time, and are widely used in consumer marketing research (Jayasankaraprasad and Kathyayani 2014; Macharia, Collins and Sun 2013; Khare 2011; Prasad and Aryasri 2011; Bai, Wahl and McCluskey 2008; Domínguez 2007; Ou, Abratt and Dion 2006; Grace and O'Cass 2005; Reynolds, Ganesh and Luckett 2002). This technique shares the advantages of an in-home interview; however it is less expensive and less effort is needed to secure participation, because the interviewer and the potential respondents are already at the same location (Hair, Bush and Ortinau 2003). However, shopping mall-intercept surveys also have some limitations: (1) the respondents may often be in a hurry, and therefore may respond in a careless manner; and (2) respondents may shop with family or friends, which may influence how they answer the questions (Gates and Solomon 1982, cited in Bush and Parasuraman 1984). The main concern here is the inability to generalize results to the target population (Hair, Bush and Ortinau 2003; Murry, Lastovicka and Bhalla 1989). This lack of representativeness, or selection error, is due to the following: (1) mall patrons may not represent the population of interest; (2) mall patrons are usually selected from mall traffic using quota sampling, where enumerators tend to select respondents based on similarity or availability (Zikmund *et al.* 2011; Murry, Lastovicka and Bhalla 1989); and (3) if the interviews take place in areas other than the entrance area, or take place in street markets with no clear entry or exit area, people who stay longer in the mall have a greater chance of being selected, causing length-biased sampling (Nowell and Stanley 1991).

In spite of these concerns, Joseph and Soundararajan (2009) suggest that shopping mall-intercept interviews are reliable and easy to implement. This type of interview has an advantage over surveys conducted in respondents' places of residence, because it is difficult to track households that have purchased items from certain retailers. Bush and Grant (1995) suggested that shopping mall-intercept was the most suitable approach to consumer survey; however, they also commented that market researchers should be cautious of omitting or under-representing some subgroups in the sample.

To reduce interviewer selection bias, a systematic sampling procedure to solicit every n^{th} person in a specified area such as the mall entrance was applied (Mortimer and Clarke 2011; Hornik and Ellis 1988). In this study, every fifth consumer entering the outlet was approached to participate in the survey (Chamhuri 2011; Mortimer and Clarke 2011; Joseph and Soundararajan 2009). If the targeted individual was not eligible or refused to participate,

the individual was replaced with the next eligible consumer. In situations in which there were not many consumers visiting a sampled food retailer (wet market or hypermarket), every alternate consumer who shopped the retail outlet was approached.

Given the objective of this study to gain insights on consumers' cross-shopping behaviour between modern and traditional food retail stores, this study employed systematic interval sampling from both type of food retailers to ensure that similar numbers of respondents will be drawn from both the traditional wet markets and modern hypermarkets.

Most hypermarkets are located within a shopping mall complex: in Pekanbaru City, only one hypermarket (Lottemart) stands on its own. Furthermore, to eliminate any temporal effects, all four wet markets were chosen based on their close proximity to each of the four hypermarkets. Surveys were conducted simultaneously in one modern retail store and its adjacent traditional wet market each week for a duration of five weeks (see Table 6.1).

Table 6.1: Survey time and location of survey

Week	Day	Hypermarkets	Suburb	Wet markets	Suburb
1	21/01/13 to 27/01/13	Hypermart SKA Mall 7 days	Tampan	Loket (Cik Puan) 7 days	Sukajadi
2	28/01/13 to 03/02/13	Giant Hypermarket 7 days	Tampan	Arengka 7 days	Tampan
3	04/02/13 to 10/02/13	Lottemart 1 day	Labuh Baru Timur	Dupa 4 days	Marpoyan Damai
		Hypermart Ciputra Mall 1 day	Payung Sekaki	Kodim 3 days	Senapelan
		Hypermart SKA Mall 1 day	Tampan		
4	11/02/13 to 17/02/13	Hypermart SKA mall 4 days only	Tampan	Kodim 7 days	Senapelan
5	18/02/13 to 23/02/13	Giant Hypermarket 4 days	Tampan	Dupa 4 days	Marpoyan Damai
		Hypermart Ciputra Mall 3 days	Payung Sekaki	Arengka 1 day	Tampan
				Loket 1 day	Sukajadi

6.2.2.3 Sample Size

The size of a sample will influence the desired accuracy of a study. The determination of sample size, therefore, affects the quality of the data (Stevens *et al.* 2006). Determination of the sample size usually depends on: (1) types of statistical analysis to be used; (2) variation within subgroups in the sample; (3) conventions within a specific research area regarding sample size (Clegg 1990, cited in Collis and Hussey 2009); (4) level of precision required; (5) available budget (Veal 2005); and (6) size of the population (Walter 2013).

Many academic researchers and public opinion pollsters draw samples of between 1000 and 2000 for each study (Walter 2013). However, general guidelines suggest that a sample size of 200-300 is acceptable for proper statistical analysis (Gaur and Gaur 2009). For a factor analysis, Gray and Kinnear (2012) noted that some writers insist on a minimum of 300 cases.

Hair *et al.* (2010) suggest that for factor analysis, the absolute sample size should be at least 50 observations, with a ratio of 5 observations per variable.

If conditions are equal, larger samples produce smaller standard errors, and therefore provide more accurate estimates of the condition of population. For a random sample of 100 people, increasing the sample size to 400 would reduce 50 percent of the sampling error. However, a point is reached where an increasing sample size will provide diminishing returns (Walter 2013). According to Krejcie and Morgan (1970, cited in Collis and Hussey 2009, p. 210), 'as the population increases, the sample size increases at a diminishing rate and remains relatively constant at slightly more than 380 cases'. Similarly, Veal (2005) suggested that the minimum sample size for a confidence interval of 5% is similar for a population of 500,000 or more, which is 384.

Stevens *et al.* (2006) provides a guideline for determining sample size based on previous studies from different research institutions. According to this guideline, typical sample sizes for consumers or households if the number of subgroups is 0-4 is 200-500 (regional or special) and 850-1,500 (national). Based on these considerations, and the fact that this study was at a regional level (Riau Province) with two subgroups (modern and traditional food retailers), a sample size of 800 respondents was considered appropriate, with 400 respondents in each subgroup.

Based on the targeted sample of a total 800 respondents, approximately half of the respondents (406) were drawn from four traditional wet markets (about 100 from each wet market). The other half (441) were drawn from four hypermarkets, mainly from two hypermarkets (Giant and Hypermart SKA Mall) due to a lack of support from other hypermarket management. The total number of respondents was 847 before screening the usable questionnaires, but the total number of usable questionnaires was 826.

6.3 Questionnaire design

6.3.1 The structure of the questionnaire

To obtain the desired information, a structured questionnaire was developed based on the results of the qualitative phase of the research (i.e. the focus group discussions) and previous research on the spread of modern retailers into developing countries, consumer purchasing behaviour involving food and grocery products, and consumer store choice. According to Gofton (1997), qualitative research, such as that conducted using focus group discussions as

a basis, establishes a variety of characteristics about the products under study and the context in which they are used.

The questionnaire (Appendix H) was divided into four sections: (1) general shopping habits, food shopping habits, and store-related determinants of store choice for food in general; (2) shopping habits associated with the purchase of cooking oil, chicken, and kangkong; (3) product-related determinants and store-related determinants of store choice for cooking oil, chicken, and kangkong; and (4) socio-demographic questions.

The order in which these sections were presented was based on the common order of questionnaires (Mooi and Sarstedt 2011): (1) screening questions; (2) questions about the key variables using a funnel approach (moving from generalities to details); and (3) demographic questions which are not part of the screening questions, usually including sensitive questions.

To facilitate the data collection process, another factor considered was the length of the questionnaire. According to Glastonbury and MacKean (1991), the maximum length of a questionnaire should be 45 minutes (for an interview) or 15 minutes (for a self-completed questionnaire). McGivern (2006) argued that the length of the questionnaire depends on the location: (1) interviewing respondents on the street should last no longer than 10 minutes; (2) interviewing in shopping malls should allow for a slightly longer interview of 15 to 30 minutes; and (3) interviewing in-home can allow longer interviews of 45-60 minutes.

As longer questionnaires put more pressure on respondents' time and memory, they often result in higher response errors, thus impacting upon the accuracy of the information (Iarossi 2006). Questions included in the questionnaire should be relevant and simple, because well-designed questionnaires will minimize the problems associated with low survey response rates, such as privacy issues, people confusing market research with sales attempts, and lack of time (Mooi and Sarstedt 2011).

Another consideration in designing a questionnaire is the form that questions should take. According to Zikmund *et al.* (2014) and Dolnicar (2013), there are two options in how researchers can allow the respondents to answer a survey: open and closed questions. Closed questions are easier to answer and quicker to process, while for open-ended questions respondents provide responses in their own words, requiring more effort from the respondents and more time in processing the data (Gilbert 2008).

Open-ended questions are most beneficial for exploratory research in which there is no way of predicting what answers respondents may give, or where the researcher wants quotable responses (Zikmund *et al.* 2014; Glastonbury and MacKean 1991); or where the researcher wants to protect against potential errors of omission (Dolnicar 2013). This is because open-ended questions will capture many ideas that might otherwise go unnoticed. Due to the nature of this study which used mixed-methods, there was a need for both open and close-ended questions to clarify respondents' answers. Hence the questionnaire for this study was comprised of both closed and open-ended questions.

6.3.2 Section 1: Shopping habits and store choice determinants for food in general

Section 1 of the questionnaire consisted of three parts: (a) general shopping habits; (b) food shopping habits regarding all food consumed at home; and (c) store-related determinants of store choice for food in general.

Part A asked the respondents to identify the type of retail store that they most often used or patronised. The response categories included modern food retailers (hypermarket, supermarket, and minimarket) and traditional food retailers (wet market, temporary market, neighbourhood shop/*warung*, hawker, independent grocer, and roadside kiosk (see Table 6.2). In their study on household food purchasing, Ricciuto, Tarasuk and Yatchew (2006) asked consumers to identify the type of retailer from which their food was purchased (supermarket, convenience store, specialty store). In the current study, the nine types of stores used in the response category were based on preliminary research findings, and are presented in Table 6.2 below.

Table 6.2: Section 1, Part A (General shopping habits)

General shopping habits		
Questions/items	**Response category**	**Literature/reference**
Do you shop in these places? (for each of 9 retailer formats)	traditional/wet market temporary/half-day market (*pasar kaget)* minimarket supermarket hypermarket *warung* (small neighbourhood store) vegetable hawker grocery/Chinese shop roadside stall	Toiba et al. (2013); Chamhuri (2011); Crush and Frayne (2011); Kato and Ota (2010); Bai, Wahl and McCluskey (2008); Veeck and Veeck (2000); FG (Focus Group) result
If yes, how often do you shop in each place?	everyday 2-3 times a week once a week 2-3 times a month once a month seldom	Toiba et al. (2013); Chamhuri (2011); Martinez-Caraballo and Burt (2011); Skallerud, Korneliussen and Olsen (2009); Bai, Wahl and McCluskey (2008); Pan and Zinkhan (2006); Goldman, Ramaswami and Krider (2002); Goldman, Krider and Ramaswami (1999); FG result
What kind of goods do you buy from each place? (circle all that apply)	dry food fruit vegetable chicken/ fish frozen foods detergent clothing	Amine and Lazzaoui (2011); Goldman, Krider and Ramaswami (1999); Kato and Ota (2010); FG result
What is your mode of transport for each place you visit?	walking bike motorbike car public transport	Kato and Ota (2010) and FG result

Recent research has shown that increased time pressure has led shoppers to minimize the number of shopping trips they make (Prasad and Aryasri 2011). After the consumers identified the types of stores they patronised, they were then asked about the frequency of their visits to each of the stores. These questions on the frequency of shopping impacted

upon the consumers' motivation to patronise one or more food retail stores, which in turn was related to situational factors. Situational factors (e.g., major shopping trip, routine bulk shop or fill-in shopping trips) will define the importance rating of the factors affecting store choice. Response categories for the shopping frequency in this questionnaire were based on the qualitative study and on related research.

Preliminary results showed that the majority of consumers exhibit selective adoption behaviour, purchasing fresh food from traditional wet markets and dry and durable foods from modern retailers. In this context, it is important to identify which kinds of goods consumers purchased from each store, using a range of mutually exclusive categories. As this section was about general purchase behaviour, response categories included fresh food, dry and frozen foods, and some non-food items (detergent and clothing).

Respondents were then asked about the mode of transport they used to travel to the patronised retailers. According to Baltas and Papastathopoulou (2003), traffic conditions and access to urban transportation influence consumers' decisions about where to purchase.

Part B of the survey (Table 6.3) asked about food shopping habits related to the purchase of all food consumed at home. The definition for food consumed at home was based on preliminary focus group discussions. Respondents were expected to report the average amount of money they spent (IDR/month) on each food retailer they regularly visited. Based on the highest and second-highest amount of food expenditure, the most important and second-most important food retailer was identified. This was based on previous research (Brown 2004, p. 2) which suggests that 'first-store loyalty is associated with the store receiving the highest percentage of household expenditure consistently over a period of time'. Martinez-Caraballo and Burt (2011) identified the first, second, and third choice of retail store for grocery and household products based on the percentage of the household budget spent in each store.

Table 6.3: Section 1, Part B (Food shopping habits)

Food shopping habits regarding all food consumed at home (rice, breakfast, lunch, dinner, cooked dishes to eat at home, raw ingredients for cooking, snacks, and milk for children)	
For food, how much money do you spend in each place you visit (IDR/month)?	Goldman, Krider and Ramaswami (1999); Osman (1993) cited in Seock (2009); Spiggle and Sewall (1987)
(Check the highest amount from answer for previous question). So you spend most of your money to buy food in ..... (mention the shopping place). Why do you spend the most for food there? (write all answers)	
(Check the second highest amount from answer for food expenditure question). Your second most important place to buy food is …..... (mention the shopping place). Why do you also buy food there? (write all answers)	
Do you go to wet market and hypermarket/supermarket at the same time?	Gijsbrechts, Campo and Nisol (2008); Krider and Weinberg (2000); FG result
What is the reason for combining/not combining your visit to wet market and hypermarket/supermarket?	FG result

Jayasankaraprasad and Kathyayani (2014) determined the main store by asking respondents in which store they spent most money, on average, in a month. A previous nutritional survey in Indonesia (Indonesian Family and Life Survey of the Rand Institute) captured the range of food expenditure in terms of amount of monthly food consumption in Indonesian Rupiah (Romling and Qaim 2011).

The respondents were then asked about the reasons for choosing their preferred food retailers. They were also asked whether they visit wet markets and hypermarkets at the same time (combined visit) or at different times, and the reason for doing so. Jayasankaraprasad and Kathyayani (2014, p. 92) obtained information on cross-shopping by asking respondents to identify 'all retail formats they had already visited on the shopper trip to the present store format or planned to visit before they left the store format in which they were currently shopping'. This study, however, did not limit cross-shopping behaviour to just one visit, because data gathered in the preliminary stage suggested that many consumers did not combine their visits to modern and traditional food stores.

Part C of Section 1 of the questionnaire sought to identify the importance of a list of store-related criterion in choosing a retail food store (Table 6.4). To measure the importance of the 40 criterion (store choice determinants/store attributes), a Likert scale was used. As consumer attitudes (preferences or evaluations) towards a product cannot be measured directly, they have to be inferred from some measurement device in the form of a numerical scale (Aaker and Day 1980, cited in Ness 1997).

Table 6.4: Section 1, Part C (Store-related determinants of store choice for food products in general)

On a scale of 1 to 6, with 1 being not at all important and 6 being very important (SHOW SCALE CARD IF NEEDED), how important are EACH of the following criterion when choosing a PLACE to buy FOOD?	
Criterion	**Literature**
Competitive price	Mortimer and Clarke (2011); Ali, Kapoor and Moorthy (2010); Rangkuti and Slette (2010); Carpenter and Moore (2006); Pan and Zinkhan (2006); Li and Houston (2001);
Shopping points/ membership program	Demoulin and Zidda (2008) cited in Chamhuri (2011); Sohail (2008)
Special price or discount	Wel et al. (2012); Mortimer and Clarke (2011); Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta (2010); Morschett, Swoboda and Foscht (2005)
Can bargain on price	Yue-Teng, Osman and Yin-Fah (2011); Maruyama and Trung (2007); Veeck and Veeck (2000)
Shopping convenience	Huang 2004 cited in Cui (2011); Rangkuti and Slette (2010); Coca Cola Retailing Research Council Asia (2007); Ho (1999)
I can self-select with my hands	Narayan and Chandra (2015); Joseph and Soundararajan (2009); Goldman and Hino (2005); Ho (1999)
Close store location/easy access	Krukowski et al. (2012); Mortimer and Clarke (2011); Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta (2010); Rangkuti and Slette (2010); Sohail (2008); Coca Cola Retailing Research Council Asia (2007); Carpenter and Moore (2006); Pan and Zinkhan (2006); Li and Houston (2001)
Opening hours	Tinggi, Jakpar and Padang (2012); Schipmann and Qaim (2011); Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta (2010); Joseph and Soundararajan (2009); Carpenter and Moore (2006); Pan and Zinkhan (2006)
Easy parking/parking facility	Kelly et al. (2015); Mortimer and Clarke (2011); Patel, Shah and Shah (2011); Sohail (2008); Coca Cola Retailing Research Council Asia (2007); Ganesh, Reynolds and Luckett (2007)
Quick payment/check out	Mortimer and Clarke (2011); Sohail (2008); Coca Cola Retailing Research Council Asia (2007); Pan and Zinkhan (2006); Morschett, Swoboda and Foscht (2005)
Product lay-out in store	Patel, Shah and Shah (2011); Morschett, Swoboda and Foscht (2005)
Service	Krukowski et al. (2012); Mortimer and Clarke (2011); Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta (2010); Rangkuti and Slette (2010); Coca Cola Retailing Research Council Asia (2007); Pan and Zinkhan (2006); Morschett, Swoboda and Foscht (2005)
Credit facility	Wel et al. (2012); Joseph and Soundararajan (2009); Neven et al. (2006)
Ability to buy in small quantity	Crush and Frayne (2011); Coca Cola Retailing Research Council Asia (2007)
Product variety/product choices	Ali, Kapoor and Moorthy (2010); Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta (2010); Sohail (2008); Carpenter and Moore (2006); Pan and Zinkhan (2006); Morschett, Swoboda and Foscht (2005)
Brand variety/brand choices	Narayan and Chandra (2015); Amine and Lazzaoui (2011); Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta (2010); Li and Houston (2001)

Table 6.4: Section 1, Part C (Store-related determinants of store choice for food products in general) cont.

Criterion	Literature
Friendliness of seller	Mortimer and Clarke (2011); Sohail (2008); Carpenter and Moore (2006); Pan and Zinkhan (2006); Li and Houston (2001)
Know the seller personally	Hino (2010); Paswan, Pineda and Ramirez (2010); Gupta (2009); Goldman, Krider and Ramaswami (1999)
Meet neighbours/friends	Wel et al. (2012); Sohail (2008)
Can support small traders	Paswan, Pineda and Ramirez (2010); Goldman, Krider and Ramaswami (1999)
Relaxing/looking around with family/friends	Joseph and Soundararajan (2009); Bianchi and Ostale (2006); Carpenter and Moore (2006); Smith and Dawson (2004)
Can buy other things (one-stop shopping)	Narayan and Chandra (2015); Minten and Reardon (2008); Morschett, Swoboda and Foscht (2005)
Eating places/restaurants	Sohail (2008); Carpenter and Moore (2006)
Prayer room facility	Belwal (2009)
There is a special event/ meeting a celebrity	HKTDC (2014); Carpenter and Moore (2006)
Cleanliness of the store	Krukowski et al. (2012); Mortimer and Clarke (2011); Rangkuti and Slette (2010); Sohail (2008); Carpenter and Moore (2006)
Attractiveness of store (store atmosphere)	Narayan and Chandra (2015); Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta (2010); Sohail (2008); Carpenter and Moore (2006); Pan and Zinkhan (2006)
Comfortable/cool environment/air conditioned	Rangkuti and Slette (2010); Belwal (2009); Goldman and Hino (2005); Morschett, Swoboda and Foscht (2005)
Home delivery	Wel et al. (2012); Patel, Shah and Shah (2011); Joseph and Soundararajan (2009)
Wide range of price level available (cheap to expensive prices)	FG result
Clear price tag	Indiastuty (2006)
Value for money/suitable prices	Wel et al. (2012); Coca Cola Retailing Research Council Asia (2007); Morschett, Swoboda and Foscht (2005)
Return/refund policy	Kim 2008 cited in Chamhuri 2011
Information from advertising/catalogue	Tinggi, Jakpar and Padang (2012); Patel, Shah and Shah (2011); Gupta (2009)
Refrigerator/cold room facility	Goldman and Hino (2005)
Sample of product availability	Barlow et al. 2004 cited in Chamhuri 2011; Zinkhan, Fontenelle and Balazs (1999)
Free to browse with no obligation to buy	Ihara (2013); Knee 2002 cited in Hassan, Sade and Rahman (2013)
Safety/security	Krukowski et al. (2012); Ganesh, Reynolds and Luckett (2007); Carpenter and Moore (2006)
Honesty/goodwill of the seller	Joseph and Soundararajan (2009); Ho (1999)
Suits my family habit	Chamhuri (2011); FG result

6.3.3 Section 2: Purchase habits for the three product categories

Section 2 consisted of questions associated with the purchase of each of the three products under study (cooking oil, chicken, and kangkong; see Table 6.5). In this section, the respondents were expected to identify the most important shopping place or store (most important, second-most important, and additional store if applicable) for the purchase of cooking oil, fresh chicken meat, and kangkong. The frequency of shopping from each place was chosen from the following: every day, 2-3 times a week, once a week, 2-3 times a month, once a month, and seldom. Subsequent questions explored the reasons to purchase from a particular retailer, the type of product, the quantity of product purchased, and the price paid for the product from each retailer that they patronised.

Table 6.5: Section 2 (Purchase habits for the three product categories)

Cooking oil	Chicken	Kangkong
Where do you buy cooking oil?	Where do you buy raw chicken meat?	Where do you buy fresh kangkong?
How often do you buy cooking oil from each shopping place?	How often do you buy raw chicken meat from each shopping place?	How often do you buy kangkong from each shopping place?
Why do you buy your cooking oil there?	Why do you buy your raw chicken meat there?	Why do you buy your kangkong there?
Which one do you buy most often? (bulk, packaged or other type of cooking oil)	What is the unit of purchase for the chicken you buy there? (whole chicken, half chicken, specific portions)	What type of kangkong do you mostly buy there? (water kangkong /ground/rooted kangkong)
Why do you buy that kind of cooking oil most often?	What is the reason for your answer to the previous question?	Why do you buy that type of kangkong most often?
What variety of cooking oil do you buy most often? (For example: palm oil, sun flower oil, peanut oil, olive oil, etc.)	If you buy whole chicken, which one do you choose? (1) live chicken to be slaughtered on the spot, or (2) previously slaughtered chicken	Which one do you buy? (tied kangkong/loose kangkong)
How much cooking oil do you buy in one purchase from each place?	What is the reason for your answer to the previous question?	How much kangkong do you buy in one purchase from each place?
What is the price do you pay in each place? (IDR/liter)	How much chicken (kg) do you buy in one purchase from each place?	How much is the price of kangkong there?
If you buy branded cooking oil, what brand? (multiple answers possible)	How much is the price of the chicken there (IDR/kg)?	
Why do you choose that brand(s)?		

Questions relating to the type of product were adjusted to suit the nature of each product category. The product-specific questions in this section were mostly developed from the preliminary qualitative research phase (focus group discussions). To avoid sequence bias by the respondents, from the 900 printed questionnaires, one third (300) of the questionnaires used the sequence cooking oil, chicken, then kangkong; 300 sets used chicken, kangkong, then cooking oil; and 300 used kangkong, cooking oil, then chicken.

For cooking oil, the questions discussed the type of oil (bulk or packaged cooking oil), the variety of oil (palm, sunflower, peanut, olive, and other), the brand (if applicable, as bulk cooking oil has no brand), and reasons for purchasing a particular brand. For fresh chicken meat, the questions were about the portion (whole chicken, half chicken, or chicken pieces), the reason for purchasing a specific portion, and the method of slaughter (live chicken to be slaughtered on the spot or previously slaughtered chicken). For fresh kangkong, the questions targeted the variety (water kangkong or ground kangkong), the reason for choosing a particular variety, and whether the respondent purchased kangkong which was tied into bunches or were loose.

6.3.4 Section 3: Product-related determinants of store choice for each product category

For Section 3, the first part was about product-related determinants of store choice for each product category under study (cooking oil, chicken, and kangkong). These determinants were chosen based on previous studies (Table 6.6). Respondents were asked to rate the importance of each item (as appropriate) on a scale of 1 to 6 (with 1 being 'not at all important' and 6 being 'very important') when choosing a place from which to purchase each product category.

Table 6.6: Section 3 (Product-related determinants of store coice for each product category)

Determinants/items	Literature/reference
Brand	Kathuria and Gill (2013); Krukowski et al. (2012); Sheeraz, Iqbal and Ahmed (2012); Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta (2010); Veloutsou, Gioulistanis and Moutinho (2004); Baltas and Papastathopoulou (2003)
Product cleanliness	Ali, Kapoor and Moorthy (2010); Ho (1999)
Halal status	Ahmed 2008 cited in Chamhuri 2011; Bonne and Verbeke (2008); Riaz and Chaudry (2004)
Product appearance/attractiveness	Rico et al. 2007 cited in Chamhuri 2011
Packaging	Ali, Kapoor and Moorthy (2010); Veloutsou, Gioulistanis and Moutinho (2004); Baltas and Papastathopoulou (2003)
Expiration date is clear	Wansink and Wright (2006)
Product is safe to be consumed	Panico et al. (2009); Ruben et al. (2007) cited in Macharia et al. (2013); Wansink and Wright (2006); Grunert et al. (2005)
Healthy	Rangkuti and Slette (2010); Ruben et al. (2007) cited in Macharia et al. (2013)
Nutritious	Ducrot et al. (2015); Rangkuti and Slette (2010); Grunert et al. (2005); Rico et al. (2007) cited in Chamhuri (2011)
Smell/odour	Sismanoglou and Tzimitra-Kalogianni (2011)
Country of origin is clear	Gupta (2009); Baltas and Papastathopoulou (2003); Wei et al. (2003)
Freshness	Mortimer and Clarke (2011); Ali, Kapoor and Moorthy (2010); Coca Cola Retailing Research Council Asia (2007); Wansink and Wright (2006); Goldman and Hino (2005); Morschett, Swoboda and Foscht (2005)
Purity	Subba Rao et al. (2007)
Taste/flavour	Sismanoglou and Tzimitra-Kalogianni (2011); Wansink and Wright (2006); Grunert et al. (2005); Wei et al. (2003)
Colour	Sismanoglou and Tzimitra-Kalogianni (2011); Wei et al. (2003)

Product attributes seemed to be the most influential to consumer selection of brands and stores, with product quality considered to be the most important criterion by consumers (Baltas and Papastathopoulou 2003). With regards to food, there are two different perspectives on quality: (1) objective quality, based on chemical tests; and (2) subjective quality, including taste and consumer satisfaction. Some attributes, such as freshness or the presence of toxic agents, can be measured in both objective or subjective ways (Altmann 1997).

According to Altmann (1997), quality summarizes all of the following product characteristics: (1) the nature of the product; (2) the packaging; (3) the label and brand; and (4) the warranties and legal protection. As quality is a very broad concept, this study opted to use more specific criterion for food quality, such as brand, product appearance, freshness, cleanliness, and nutritional value.

Brand credibility has been found to be influential in consumer purchase intentions (Sheeraz, Iqbal and Ahmed 2012). Higher-income consumers purchase more national brands, while lower-income consumers appear to be less influenced by brands (Akbay and Jones 2005, cited in Sanlier and Karakus 2010). Kathuria and Gill (2013) suggested that consumers are willing to pay a higher price for higher-quality products, such as branded commodities, due to a rise in income, an increased awareness in health and food safety, changing lifestyles, and influence from foreign food manufacturers. However, Baltas and Papastathopoulou (2003) found that grocery consumers in Greece attached only a moderate level of importance to brand name, and very low importance to store brands in selecting a store, which did not support the studies in the UK, Germany and France.

Baltas and Papastathopoulou (2003) identified grocery product packaging as attracting the least attention from consumers compared to other product-related attributes. However, according to Smith and Dawson (2004), Indonesian consumers, in general, prefer packaged (usually branded) products to those traditionally sold in bulk in the wet markets, as packaged products provide an assurance of quality and health.

The packaging of a product relates to other attributes such as halal status, expiration date, and nutritional value. According to Sanlier and Karakus (2010), education on the use of food labels could improve consumers' awareness of nutritional value and food safety. According to FDA (1994, cited in Sanlier and Karakus 2010) , the information that should appear on food packages includes the production date, expiration date, the contents and nutritional facts of the food, the net and gross weight, and instructions on preparation, cooking and storing.

Baltas and Papastathopoulou (2003) found that consumers in Greece attached moderate importance to the country of origin for grocery products. In China, Maruyama and Wu (2014a) found that perceived importance of country of origin of food retailers had no significant influence to store choice.

Consumers traditionally give a high rating to freshness/cleanliness attributes, along with price and quality (Ali, Kapoor and Moorthy 2010). According to Gupta (2009), the cleanliness of the product is one of the most important attributes in many food categories, including vegetables, milk and milk products, grains, and processed foods.

According to (Rangkuti and Slette 2010), even though the average Indonesian consumer places more importance on price than quality and appearance, they are increasingly making decisions based on health and nutritional concerns. In addition to price and quality, consumers also consider taste and nutritional value in making their decision to purchase food (Sanlier and Karakus 2010). For consumers, quality ultimately means that the product will taste good (Chamhuri 2011).

The second part of Section 3 was identical to Section 1, Part C, but in this section, the questions were asked in relation to the purchase of each product category – cooking oil, chicken, and kangkong – instead of general food products.

6.3.5 Section 4: Socio-demographic characteristics

According to Davies (2007) and Allison *et al.* (1996), a survey includes personal questions, which allows for the analysis of opinions and attitudes based on different types of respondents. Socio-demographic characteristics (such as age, gender, marital status, income, education, occupation, and household size) have considerable influence on food store choice (Prasad and Aryasri 2011), food purchasing patterns (Ricciuto, Tarasuk and Yatchew 2006), and food shopping frequency (Meng *et al.* 2014). Section IV of the questionnaire looked at the socio-demographic variables for each respondent (Table 6.7).

Table 6.7: Section 4: Socio-demographic characteristics

Socio-demographic questions	Literature
Gender	Macharia, Collins and Sun (2013); Toiba et al. (2013); Prasad and Aryasri (2011); Jacobson, Mavrikiou and Minas (2010); (Bai, Wahl and McCluskey 2008); Carpenter and Moore (2006); Pan and Zinkhan (2006); ACNielsen (2005); Baltas and Papastathopoulou (2003)
Marital status	Krukowski et al. (2012); Prasad and Aryasri (2011); Reynolds, Ganesh and Luckett (2002); Li and Houston (2001)
Age	Macharia, Collins and Sun (2013); Toiba et al. (2012); Amine and Lazzaoui (2011); Martinez-Caraballo and Burt (2011); Prasad and Aryasri (2011); Carpenter and Moore (2006); Pan and Zinkhan (2006); Neven et al. (2006); Baltas and Papastathopoulou (2003)
Number of people living in the household (household size)	Macharia, Collins and Sun (2013); Toiba et al. (2012); Martinez-Caraballo and Burt (2011); Prasad and Aryasri (2011); Kato and Ota (2010); Bai, Wahl and McCluskey (2008); Neven et al. (2006); D'Haese and Huylenbroeck (2005); Goldman and Hino (2005)
Composition of the people in the household (immediate family, extended family, other people)	FG result
Number and age of children living at home	Suryana, Ariani and Lokollo (2008); Veeck and Veeck (2000)
Education	Macharia, Collins and Sun (2013); Krukowski et al. (2012); Toiba et al. (2012); Prasad and Aryasri (2011); Bai, Wahl and McCluskey (2008); Carpenter and Moore (2006); Neven et al. (2006); Goldman and Hino (2005); Baltas and Papastathopoulou (2003); Reynolds, Ganesh and Luckett (2002)
Occupation	Krukowski et al. (2012); Toiba et al. (2012); Prasad and Aryasri (2011); Amine and Lazzaoui (2011); Martinez-Caraballo and Burt (2011); Chowdhury, Gulati and Gumbira-Sa-id (2004)
Spouse's occupation (if applicable)	
Ethnicity	Chamhuri (2011); Hino (2010); Belwal (2009); Wang et al. (2007); Jamal et al. (2006); Omar, Hirst and Blankson (2004); Othman (1990)
Spouse's ethnicity (if applicable)	
Religion	Tinggi, Jakpar and Padang (2012); Hino (2010); Li and Houston (2001); Omar, Hirst and Blankson (2004)
Suburb	Amine and Lazzaoui (2011); Bai, Wahl and McCluskey (2008)
Fridge/refrigerator ownership	Finzer et al. (2013); Toiba et al. (2012); Hino (2010); Kato and Ota (2010); D'Haese, Van den Berg and Speelman (2008); Neven et al. (2006); Othman (1990)
Microwave oven ownership	Finzer et al. (2013); Kato and Ota (2010)
Motorbike ownership	Finzer et al. (2013); Kato and Ota (2010); D'Haese, Van den Berg and Speelman (2008); Neven et al. (2006); Goldman and Hino (2005)
Car ownership	Finzer et al. (2013); Toiba et al. (2012); Kato and Ota (2010); D'Haese, Van den Berg and Speelman (2008); Neven et al. (2006); Goldman and Hino (2005); Goldman, Krider and Ramaswami (1999)
Who does the cooking in the household	Kato and Ota (2010); Neven et al. (2006); Goldman, Krider and Ramaswami (1999)
Monthly household spending on all food (spending groups, not exact amount)	Jacobson, Mavrikiou and Minas (2010)
Monthly spending for raw food to be cooked at home	FG result

Table 6.7: Section 4: Socio-demographic characteristics cont

Socio-demographic questions	Literature
Monthly spending for practical /convenience food	Ho (1999)
Monthly spending on take-away food (spending groups, not exact amount)	Jacobson, Mavrikiou, and Minas (2010); Kato and Ota (2010)
Monthly spending for eating out in restaurants (spending groups, not exact amount)	Jacobson, Mavrikiou, and Minas (2010); Kato and Ota (2010); Ricciuto, Tarasuk and Yatchew (2006)
Total family earnings per month/household income (income groups, not exact amount)	Macharia, Collins and Sun (2013); Crush and Frayne (2011); Prasad and Aryasri (2011); Jacobson, Mavrikiou, and Minas (2010); Kato and Ota (2010); Bai, Wahl and McCluskey (2008); D'Haese, Van den Berg and Speelman (2008); Carpenter and Moore (2006); Neven et al. (2006); Pan and Zinkhan (2006)
How the household received main income (weekly/monthly/irregular)	FG result
Credit card ownership	Toiba et al. (2012); Tessier (2010); Neven et al. (2006)

The socio-demographic questions included in this survey were based on findings from previous studies on food shopping behaviour and preliminary research findings. Gender influences food shopping because in selecting a store, women tend to be more detailed in terms of economic value (Baltas and Papastathopoulou 2003) and pay more attention to food labels (Sanlier and Karakus 2010). Women also value shopping as leisure activity, demand a more personal relationship (Yousaf and Huaibin 2013), and tend to use traditional wet markets (Li and Houston 2001). Yousaf and Huaibin (2013) identified women as more likely to make impulse buying decisions because they are more responsive to image and enjoyment.

Gender also relates to marital status due to the shopping role in a household. According to Baltas and Papastathopoulou (2003), people with a family often pay more attention to the household budget, and therefore pay more attention to price-related attributes. Consistent with this result, Li and Houston (2001) found that married shoppers tend to use wet markets.

In previous studies, age has been found to influence a consumer's store choice decision. Older shoppers use traditional wet markets more frequently (Li and Houston 2001), while younger shoppers utilise supermarkets more often (Neven *et al.* 2006). For this study, age groups used in the questionnaire were adapted from Walker (1996, cited in Isaacs, Dixon and Banwell 2010). The youngest age group was 18-24 years, which was justified by the nature of this study to examine consumer decision making in food shopping. In a household, those who make the purchasing decision would usually be around this age group. This demographic was compliant with the ethics requirements of Curtin University for level C (low risk) approval.

According to Ricciuto, Tarasuk and Yatchew (2006), the age of the consumer influences food purchase decisions because it reflects the specific needs for the life stage. Older people, such as pensioners, may face tighter budget constraints due to their low disposable income (Baltas and Papastathopoulou 2003). The number of children in a household also depends on the life stage of the household. Suryana, Ariani and Lokollo (2008) noted that families with children often shop in supermarkets as a family recreation.

Household size is an important determinant of food expenditure. Lower food expenditures among large households may be explained by a tendency to substitute less expensive foods for more expensive ones, or by economies of scale resulting from the purchase of larger quantities (Ricciuto, Tarasuk and Yatchew 2006). Several studies have suggested that large households have a greater family commitment and time restrictions, and thus they tend to be loyal and avoid variety-seeking behaviour (Martinez-Caraballo and Burt 2011). Due to more consumption, larger households prefer to buy in bulk from hypermarkets (Prasad and Aryasri 2011).

Education is negatively associated with price-related decision criterion, mainly because university graduates tend to receive higher salaries (Baltas and Papastathopoulou 2003). However, according to Ricciuto, Tarasuk and Yatchew (2006), education-related differences in food purchasing seem to be more reflective of health concerns than income-related ones. Traditional markets generally suit families with lower education levels because these retailers provide staple foods at cheaper prices (Meng *et al.* 2014), while educated consumers tend to patronise modern retail formats (Prasad and Aryasri 2011).

Occupation is also a meaningful determinant for store choice, as working women tend to purchase more prepared and semi-prepared food from supermarkets (Prasad and Aryasri 2011). Martinez-Caraballo and Burt (2011) found that occupation had an influence on

variety-seeking behaviour for working women, as most respondents split their grocery purchases among two to three stores.

Another significant factor in consumer patronage behaviour is ethnicity, including religion (Seitz 1988, cited in Omar, Hirst and Blankson 2004). Race or ethnicity may influence consumers' food preferences due to their desire for ethnicity-specific dishes (Fan *et al.* 2007). Similarly, Wang *et al.* (2007) identified how the availability of ethnic foods strongly influence consumers' store choice.

District (suburb) was included in this study as location has been found to have a statistically significant impact on food shopping frequency (Meng *et al.* 2014). Furthermore, asking respondents to identify their place of residence can help in checking the coverage (cross-section) of the study population (Bai, Wahl and McCluskey 2008). In this study, the area in which the respondents resided was expected to influence their access to both traditional and modern food retail stores.

Vehicle ownership is another determinant of store choice due to the ability to readily access the retail store of choice. Shoppers with limited transportation are restricted to shopping in a few nearby food and grocery stores (Brown 2004). Other variables related to a household's economic status include fridge and microwave ownership.

Concurrent with the increase in the number of working women and time pressure, there has been a growing demand for more convenience food and a greater propensity to eat more food away from home (Veeck and Veeck 2000). This study assessed the monthly household spending for food in general, raw food to be cooked at home, ready-to-eat food, convenience food, and food consumed away from home.

In previous research, questions about eating out and the purchase of ready-to-eat meals were asked as frequency of eating out in a week or a month (Kato and Ota 2010), monthly expenditure group (Jacobson, Mavrikiou and Minas 2010) or weekly expenditure in dollars (Ricciuto, Tarasuk and Yatchew 2006).

Questions regarding income were asked last, as these are considered sensitive questions. Respondents were asked about their household's monthly income category, income regularity and credit card ownership. Food purchasing generally expands with higher income, which is consistent with the widely observed phenomenon that as incomes rise, households spend more on changing the type, quality and variety of foods, rather than

increasing the quantity of food consumed (Horton and Campbell 1991, cited in Ricciuto, Tarasuk and Yatchew 2006).

Consumers with higher incomes tend to spend more on products and services (Stewart *et al.* 2004, cited in Mehmood and Rehman 2010). These richer households experience higher opportunity cost of time and prefer one-stop shopping at supermarkets (D'Haese, Van den Berg and Speelman 2008). Some households with higher income will employ a maid (Toiba *et al.* 2013; Kato and Ota 2010), which may influence their food shopping behaviour. On the other hand, consumers with low or limited income deem every purchase to be important and have to be sure that they are making the right purchases (Chikweche and Fletcher 2010).

Income regularity and credit card ownership are often associated with the use of hypermarkets and supermarkets. According to Tessier (2010), steady income has been shown to influence supermarket patronage. Consumers who own a credit card tend to patronise modern food retail formats (Prasad and Aryasri 2011; Neven *et al.* 2006).

6.4 Translation, Pilot Testing and Ethics

6.4.1 Translation

Surveys are often conducted in multi-ethnic and multi-lingual societies. When undertaking studies across cultures, it is important to ensure that the concepts being explored have similar meanings. According to Hunt, Crane and Wahlke (1964, cited in Iarossi 2006), the translation of the survey instrument into the local language should not, therefore, be seen as a simple 'transliteration' of words. Rather, it should be a transformation of the survey instrument to ensure 'conceptual equivalence'.

It is essential that the translation conveys a consistent message across cultures. A technique to ensure good translation quality is 'back translation'. In this study, back translation was conducted according to the following steps: (1) the questionnaire was developed in English; (2) it was translated into Indonesian language by a bilingual translator; and (3) it was translated back into English then compared to the original English version, and modifications were made where necessary to ensure consistency. The questionnaire for this study was back-translated from English to Indonesian to English and then pilot-tested in Indonesian.

6.4.2 Implementing the survey (pilot test)

By the time a questionnaire reaches the pilot stage, generally, all issues of wording, style, content, layout and language should be resolved. The pilot represents the first 'live' test of the instrument and the last step in the finalization of the questions (Moser and Kalton 1971, cited in Iarossi 2006). Any attempt to shortcut this step may seriously jeopardise the accuracy of the data about to be collected. Time constraints should not affect this essential last step in the design of the questionnaire (Mooi and Sarstedt 2011; Moser and Kalton 1971, cited in Iarossi 2006).

For the pilot study, as the researcher was residing in Australia, it was not possible to test the survey on respondents who could have been part of the main study. As a result, the pilot test for this study was conducted with a group of people whose circumstances were close to the target research group, as suggested by (Glastonbury and MacKean 1991). Therefore, a pilot test was conducted using a convenience sample of 40 respondents in Perth (Indonesian postgraduate students and their spouses). It was assumed, since most had been in Australia for only 1-3 years, they were still familiar with the types of food retailers in Indonesia and would remember their food shopping experiences. Based on suggestions of the pilot test, some alterations were applied to the survey questionnaire which were the addition of number of vehicle owned and the addition of the definition of immediate family.

6.4.3 Ethics

Ethical standards and guidelines were followed throughout this study. Participants were: (1) informed of the objective of the research; (2) guaranteed confidentiality; (3) made aware that their contribution was optional; and (4) informed that they were allowed to withdraw at any time. The participants were also informed that this study had been granted ethics approval (Form C) from the Research and Ethics Committee of Curtin University.

6.5 Data Collection

When multiple interviewers are required for data collection, the interviewers should be trained to minimize result variation between them (Van der Velde, Jansen and Anderson 2004). Training of the interviewers influences both the quantity of questionnaires completed and the quality of the participants' responses (Iarossi 2006). For this study, six interviewers were trained for one day. They were then given the opportunity to try out one to two

questionnaires with a convenience sample in a traditional market to improve their understanding of the questions as well as their confidence.

To secure participation, first impressions are important. The interviewer's socio-demographic characteristics (such as age, gender, appearance, religious belief and social class) can influence a respondent's decision to participate (Warwick and Lininger 1975, cited in Iarossi 2006). As most Indonesian food shoppers are female, all of the interviewers in this study were female undergraduate students from Pekanbaru City. As suggested by Ganesh, Reynolds and Luckett (2007), the interviewer approached the shoppers and introduced herself, informed the shoppers about the study, invited them to take part in the interview, and assured them that the information obtained would strictly be used for research purposes only.

To increase the level of participation in a survey, incentives such as cash rewards are increasingly being used (Mooi and Sarstedt 2011). Prior research has suggested that the payment of incentives does improve response rate and that monetary incentives do not appear to bias data quality (Singer and Ye 2013; Iarossi 2006). Cash rewards improve participation more effectively than gifts, and prepaid cash provides a better result than a promised reward or a prize draw (Singer and Ye 2013). However, the actual payment of money can present ethical and practical problems (Iarossi 2006). In business surveys, it is advisable to use non-monetary incentives (Gower 1993, cited in Iarossi 2006).

Timing and location are also important in securing survey participation. If the interview takes too long and the respondent needs to cut it short, the interviewer should set up another meeting, or, if only a few questions are left, should attempt to conclude the interview (Iarossi 2006). However, due to time constraints, setting up another meeting with respondents who were unable to complete the questionnaire was not undertaken in this study. Instead, the enumerators tried to approach more consumers to participate by explaining that the questionnaire was about daily shopping activities and that anyone could answer. They also showed prospective participants the incentive (a flower brooch) for those respondents who could finish the questionnaire. During the data collection process, one of the 6 enumerators was appointed as coordinator and the team members reported their progress and problems on a weekly basis to the coordinator.

The response rate for a sample is the degree to which cooperation is obtained from all eligible respondents. The response rate is influenced by different variables such as sampling methods, the research themes, and how appealing the survey sounds on introduction (Oishi

2003). Compared to other types of interviews, response rates are usually higher for face-to-face interviews (McGivern 2006).

According to Oishi (2003, p. 156), the response rate is 'the measure of the effectiveness of data collection and is determined by the number of completed interviews divided by the number of eligible people in the sample'. Eligible respondents include: those who complete interviews; those who are eligible but refused to be interviewed; those who begin interviews but do not complete them; those who are eligible but not available for an interview (e.g., due to illness); and those who are eligible but are not interviewed because a language barrier exists (Oishi 2003).

Oishi (2003, p. 156) also suggests that 'while no particular rate is considered acceptable, if rates of 70-80% are achieved, researchers can feel comfortable with the analysis'. Jacobson, Mavrikiou and Minas (2010) attributed their very high response rates of over 80% to the commitment of student interviewers and the readiness of households to participate after being clearly informed of the survey's purpose and guaranteed confidentiality. Jamal *et al.* (2006) achieved a response rate of 67% from convenience sampling among students and staff at a local university. However, according to Vogt (2007), doctoral dissertation research seldom achieves more than a 40% response rate. For shopping mall intercept surveys, the response rates reported from previous studies ranges from 54-62% for four different retail formats (Ganesh, Reynolds and Luckett 2007), 55-56% for traditional malls and retail outlets (Reynolds, Ganesh and Luckett 2002) and 21% in shopping malls (Odekerken-Schröder, De Wulf and Schumacher 2003).

In this study, 782 shoppers were approached in the wet markets, with 406 respondents choosing to participate. In the hypermarkets, 832 shoppers were approached and 441 chose to participate. Therefore the response rates for this study were 52% for the traditional wet market and 53% for the hypermarket.

6.6 Data Analysis

The Statistical Package for Social Sciences (SPSS) program was used for data analysis. Before entering the data, all 847 questionnaires were screened which resulted in 826 usable questionnaires. Unusable questionnaires were those with too much incomplete data (50% completed or less), or were completed by respondents who resided outside the survey area (from neighbouring provinces). The next step was to code each open-ended question. A

variety of answers were recorded but then, after review, very similar answers were aggregated.

According to Pallant (2010), in deciding which statistical measures to use, the researcher should consider the following aspects: (1) the types of questions; (2) the types of items and scales; (3) the characteristics of the data; and (4) the specific requirements for each statistical test. Data analysis in this study involved univariate and multivariate analysis.

6.6.1 Univariate Data analysis

Univariate analysis describes the distribution of each individual variable (Field 2009). The types of univariate analysis used in this study included descriptive analysis, cross-tabulations, independent t-test, one way analysis of variance (ANOVA), and non-parametric tests.

Descriptive statistics are used to summarize the data in a more condensed form to make it easier to present in graphic formats such as tables and diagrams (Collis and Hussey 2009). Frequency distributions and cross-tabulations are the fundamental building blocks for data analysis, as they provide insights into the data and provide the basis for further analysis (Malhotra *et al.* 2008). Descriptive analyses were used in this study to describe the socio-demographic profiles of the survey respondents and to rank the reasons that consumers gave for choosing the most and second-most important retailer for food in general, then the most important retailer for the three distinct product categories (cooking oil, chicken, and kangkong).

Cross-tabulation is a statistical technique that merges the frequency distributions of two or more variables into a single table. The categories of one variable are cross-classified with the categories of one or more other variables. This technique can help to show how one variable relates to another variable (Malhotra *et al.* 2008). In this study, cross-tabulations were used to identify any relationships between the three clusters that had been identified and several other variables: (1) the types of food products purchased from traditional wet markets and hypermarkets; (2) the survey location; (3) the most important food retailer; (4) whether the respondents combined their visits to wet markets with supermarkets and hypermarkets; and (5) the monthly food expenditure at each food retailer patronised by respondents with the clusters.

The independent samples t-test is used to assess whether the two means collected from independent samples differ significantly (Field 2009). In this study, an independent samples t-test was applied to identify any significant difference in respondents' choice of food retail stores among the three clusters identified.

ANOVA (analysis of variance) tests for differences in the means for three or more populations (Hair *et al.* 2007). One-way ANOVA is used when one dependent variable is measured in a metric (interval or ratio) scale and one independent variable is expressed in a categorical (non-metric) scale (Malhotra *et al.* 2008). In this study, one-way ANOVA was used to determine whether there was any significant difference in the means of certain variables (such as monthly food expenditure and respondents' attribute ratings) between the consumer segments (clusters) identified from cluster analysis. Following a statistically significant F-test, a series of post-hoc tests (Tukey's, Duncan's and Scheffe's HSD) were conducted to identify which of the variable means differed from each other.

6.6.2 Multivariate Data Analysis

Multivariate analysis involves the simultaneous analysis of data involving two or more variables. This type of analysis improves on the limitations of univariate analysis, and is very useful for marketing-related research, which involves the influence of many variables in complex relationships (Ness 1997).

Ness (1997) explained that the suitability of a certain analysis depends on two parameters: (1) whether one or more variables are dependent upon other variables, or the variables are interdependent; and (2) data measurement (metric or non-metric). Among the different types of multivariate analysis available, this study used factor and cluster analysis. According to Veal (2005), factor and cluster analysis are used when a researcher needs to group together a large number of independent variables which jointly contribute to a complex phenomenon.

6.6.2.1 Factor analysis

Factor analysis is a set of statistical procedures used to condense the original data into a smaller set of underlying variables, providing a good approximate representation of the original data with the minimum loss of information (Gray and Kinnear 2012; Hair *et al.* 2010; Bartholomew *et al.* 2008). The ideal is to achieve the maximum amount of data reduction whilst at the same time preserving as much variance as possible (Ness 1997). In detail, factor analysis is 'an exploratory technique which is applied to a collection of inter-

correlated metric variables with the objective of data reduction and interpretation' (Ness 1997, p. 258).

Interpretation of the results of factor analysis relies on the factor loadings, which provide an understanding of what the factors represent. A successful application 'would reveal that each factor is strongly associated with one or more of the original variables' (Ness 1997, p. 258). A rotation of the resultant factor loadings is usually conducted to obtain a simpler structure, where each variable makes a large contribution (factor loading) to only one factor, with close to zero contributions to other factors, thus making the results easier to interpret (Bartholomew *et al.* 2008). To identify factors that are uniquely represented by a set of variables, Veal (2005) suggested that a variable should only be considered as contributing to a factor where it had a factor loading of more than 0.5 and a factor loading of less than 0.3 on another factor.

Several procedures have been developed to search automatically for a suitable rotation. One of these is the varimax procedure, which attempts to find a simple structure by applying an orthogonal rotation, finding factors with a few high loadings and as many close-to-zero loadings as possible (Field 2009; Bartholomew *et al.* 2008). Sometimes, a simple structure can be achieved by applying a non-orthogonal (oblique) rotation, which 'requires the researcher to relax the original assumption of the linear model factor that the latent variables be uncorrelated' (Bartholomew *et al.* 2008, p. 191).

Factor analysis is an exploratory tool which can be conducted using SPSS. The researcher has to make a range of choices regarding the optimal method to extract factors from the data (Field 2009; Veal 2005). Decisions on how many factors to extract should be based on both a conceptual base and on empirical evidence regarding how many factors can be approved (Hair *et al.* 2010). Another consideration in extracting the underlying factors is that the factors should be stable and should show similarities to the population factors (Costello & Osborne 2005, cited in Jayasankaraprasad & Kathyayani 2014; Hair *et al.* 1995). After extraction, the interpretation of each factor is deduced by deriving a collective name for those variables which are most strongly associated with each factor (Ness 1997) to reflect the conceptual construct that they represent (Veal 2005).

One criterion for the number of factors to extract is the percentage of variance criterion, which is based on achieving a specified cumulative percentage of total variance extracted by successive factors. In the natural sciences, factoring procedures usually do not stop until the extracted factors account for at least 95% of variance. In social sciences, however, where

the level of required accuracy is lower, it is common to accept a solution that accounts for 60% of the total variance (Hair *et al.* 2010).

According to Ness (1997), in consumer marketing research, a common application of factor analysis is to identify the main dimensions of consumers' perceptions of products. A product may be described as a series of attributes concerned with some functional and non-functional characteristics, and factor analysis may help to identify whether some attributes may measure, to varying degrees, the same phenomenon. In this study, factor analysis was applied to 40 store-related attributes considered by consumers when choosing a place to buy foods. Factor analysis was also applied to 15 product-related attributes. These analyses were conducted to identify the factors that were most influential in respondents' choice of retail store for food in general, and for each of the three specific product categories: processed or dry food, semi-processed food, and fresh food (cooking oil, chicken, and kangkong).

In factor analysis, it is necessary to analyse the sampling adequacy through the use of such tools as the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of Sphericity (Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta 2010). The closer the KMO value is to 1, the better the result is. While a KMO value of 0.6 is acceptable, 0.5 is considered poor (Brace, Kemp and Snelgar 2012). Kaiser (1974, cited in Field 2009) recommends a bare minimum of 0.5, while Hutcheson and Sofroniou (1999, cited in Field 2009) classify the KMO values into the following categories: mediocre (between 0.5 and 0.7); good (between 0.7 and 0.8); great (between 0.8 and 0.9); and superb (above 0.9).

Meanwhile, Bartlett's test is expected to be significant, which means there are some relationships between the variables (Field 2009). Where the Bartlett's test acquires a high and significant level, it rejects the hypothesis that the correlation matrix is an identity matrix. Should the hypothesis be accepted, this would suggest that factor analysis was inappropriate (George and Mallery 1995, cited in Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta 2010).

In conducting factor analysis for this study, multiple steps were undertaken to examine: (1) the correlation matrix (coefficient, significance level, determinant of the R-matrix, KMO and Bartlett's Test of Sphericity); (2) the factors extracted; (3) factor rotation; (4) reliability analysis; and (5) interpretation of the factors (Table 6.8).

Table 6.8: Parameters used for factor analysis

Procedures	Parameters	Value	Literature
Examination of the correlation matrix	KMO	0.6 and above	Brace, Kemp and Snelgar (2012)
	Bartlett's Test of Sphericity	Bartlett's must be large Significance level must be low (p less than .05)	Brace, Kemp and Snelgar (2012)
Factor extraction	Eigenvalue of the factor	Equal or greater than 1.0	Hair *et al.* (2010)
Interpretation of factors	Factor loadings	0.4 and above	Field (2009); Jamal *et al.* (2006)
Reliability analysis	Cronbach's alpha	0.7 and above	Brace, Kemp and Snelgar (2012); Nunnally and Bernstein (1994, cited in Jayasankaraprasad and Kathyayani 2014)

By providing insights into the interrelationships among variables and the underlying structure of the data, factor analysis is a good starting point for many other multivariate techniques (Hair *et al.* 2010). Factor analysis may provide an input into subsequent analysis such as cluster analysis where the scores on original variables are replaced with scores on each factor to achieve data reduction (Ness 1997).

6.6.2.2 Cluster analysis

Cluster analysis refers to 'a variety of techniques used to determine the underlying structure, natural grouping, or conceptual scheme (often referred to as clusters) of a set of entities by illustrating which of those entities are most closely related based on a set of descriptors' (Nicol and Pexman 2007, p.47).

The principle of cluster analysis is that items that are close together (similar) should be put in the same group, whilst items which are far apart (different) should be put into different

groups. Cluster analysis aims to place the respondents into groups based on selected characteristics, so that there is high within-group homogeneity and high between-group heterogeneity (Ness 1997).

Methods for cluster analysis can be categorized into hierarchical or non-hierarchical. According to Bartholomew *et al.* (2008, p. 19-20), in a hierarchical method, the clustering process is based on a hierarchy 'in which subsets of clusters at one level are aggregated to form the clusters at the next level'. In the non-hierarchical method, clusters are formed by 'adjusting the membership of those clusters at any stage in the process by moving individuals in or out of groups'.

Cluster analysis has an important role in behavioural science, where comprehensive theory is often lacking. An example of this is marketing research, when the researcher needs to identify patterns in the data (Bartholomew *et al.* 2008). In consumer research, the main areas of application are in test market selection (Ness 1997) and in the identification of consumer segments (Bartholomew *et al.* 2008; Ness 1997). Consumer segments may be identified based on their perceptions of products, the benefits they seek from products, or their lifestyles (Saunders 1980, cited in Ness 1997).

In this study, cluster analysis was conducted to identify segments of consumers based on store attribute ratings. Each cluster identified was expected to rate the store attributes differently which may influence their decision to purchase food in general and certain food product categories (cooking oil, chicken, and kangkong) from traditional wet markets and modern retailers (hypermarkets, supermarkets, minimarkets). This segmentation was expected to shed light on the reasons motivating cross-shopping (multiple store patronage) behaviour.

6.7 Challenges, implications and chapter summary

Several difficulties were encountered during the preparation and conduct of the consumer survey. The first challenge was to construct the questionnaire so that it could cover the many topics on food shopping habits associated with the purchase of three products, while ensuring that the survey could be administered in a relatively short time (not much more than 30 minutes). After reviewing the related literature and combining it with the preliminary FGD results, a 12-page questionnaire that could be administered in around 30-45 minutes was constructed.

This study required significant funding. Funds were required for travelling costs, the payment of six research assistants and enumerators, gifts of appreciation for each respondent, and the costs associated with photocopying 900 sets of questionnaires. Travel costs had to cover the cost of travel for: (1) the researcher to travel to Pekanbaru, Riau Province, Indonesia; (2) inspection of all hypermarkets and supermarkets in Pekanbaru City to determine whether they sold the three products under study, (3) checking the proximity of wet markets to each chosen hypermarket; and (4) six enumerators, seven days a week.

Other costs incurred were refreshments (drinks and snack food) for the enumerators. Due to the incomplete questionnaires submitted by some respondents, additional photocopies were needed. To overcome the transport and logistical costs, the researcher sourced lower-cost items and purchased the gifts for the respondents in bulk to keep the consumables within the available HDR budget.

During the data collection process, one problem that arose was the lack of a suitable seating area in the survey locations. It was intended that interested respondents would be directed to sit down and complete the questionnaire. As there was no seating area around the entrance of the hypermarkets and wet markets, it was not practical to provide refreshments for respondents as had originally been intended. To overcome this problem, with their consent, the enumerators followed the consumers during their shopping (mostly in wet markets) or waited until they finished shopping before going to an entertainment area (in the shopping malls).

Prospective respondents were very busy doing their shopping in the wet markets and hypermarkets. The main reasons provided by respondents who refused to participate were the time constraint and/or the presence of small children. Many employees in uniform were also reluctant to participate in the survey during working hours. Response rates from the Chinese ethnic group were very low. Interviewers tried to explain briefly in the introduction stage that the topic was about daily shopping habits and that respondents could easily answer. At the same time, the interviewers also showed the gift provided for prospective respondents who could finish the questionnaire in order to solicit participation.

One problem was the lack of cooperation from the hypermarkets with regard to conducting surveys on their premises. In the first two hypermarkets, the enumerators were granted informal permission from the management, but in the third and fourth hypermarkets, permission was not granted. To overcome this problem, interviewers stood near the mall entrance and in public areas within the mall building instead of near the hypermarket's

entrance. A similar approach was adopted by Farrag, El Sayed and Belk (2010), where interviewers stood outside the mall in nearby public places to solicit participation.

This chapter has presented the quantitative research design for this study. The choice to use a quantitative survey administered by personal interview using shopping mall intercepts has been justified. The design of the research instrument (questionnaire), the data collection methods, and the data analysis techniques employed have also been described. In the next chapter, the results of the survey will be presented.

CHAPTER 7

CONSUMERS' CROSS-SHOPPING HABITS BETWEEN TRADITIONAL AND MODERN FOOD RETAIL STORES

7.1 Introduction

The first part of this chapter (Section 7.2) describes the respondents who participated in the second phase of this research study (the quantitative consumer survey). It describes the respondents who participated in the survey, which was conducted in both the traditional wet markets and hypermarkets in Pekanbaru City. Respondents from both locations are compared with the objective of identifying any significant differences between the two samples. The validation of the sample, by comparing the sample parameters with other related research results in Indonesia and data collected by the Indonesian Central Bureau for Statistics (BPS) is presented in Appendix G. The second part (Section 7.3) describes consumers' cross-shopping habits for food in general. It uses non-parametric statistics to describe the different types of retailers patronised by consumers for their general shopping (food and non-food products); frequency of visits; the type of goods purchased from each retailer; mode of transport; monthly expenditure in each retailer; whether consumers combined their visits to wet market and supermarket/hypermarkets and their reason(s) for combining or not combining their visits. Section 7.4 describes consumers' shopping habits for the three product categories under study (cooking oil, chicken and kangkong). This section describes the preferred retail outlets; frequency and quantity of purchase; reasons for purchase; and the prices of products purchased from the primary retailer. Section 7.5 discusses the main findings regarding consumers' cross-shopping habits. The chapter then concludes with a conclusion (Section 7.6).

7.2 Profile of survey respondents

As presented in Chapter 1 (Figure 1.1: Theoretical framework), consumer characteristics such as socio-demographics has influence on consumers' food store choice. In the context of cross-shopping in this study, the socio-demographic profile provides insights on Indonesian consumers such as their economic limitations. This profile will also be discussed in Chapter 9 to provide more information on the consumer clusters identified in this study.

The respondents from both survey locations (traditional wet markets and hypermarkets) were interviewed during a five-week period, from the last week of January 2013 until the last week of February 2013. Many respondents (38%) were surveyed toward the end of each month. Some 27% respondents were surveyed in the third week of February, 18% in the second week, and 17% in the first week of February. The survey was planned to cover four weeks of the month to capture variety in shopping behaviour. However, as the survey had to start at end of the month due to time contraints, the survey covered two ends of month which resulted in more respondents toward the end of each month.

From the total of 824 survey respondents, a similar proportion was sampled from traditional wet markets (WM) (48%) and hypermarkets (HM) (52%). The personal interviews were conducted at different times during the day to ensure adequate sampling diversity following Jayasankaraprasad and Kathyayani (2014). However, day time and morning time were the main time slots preferred by the respondents to do their shopping. The majority of respondents (57%) were interviewed during the day from noon until evening (12:00pm to 6:00pm), 28% were interviewed in the morning (before 12pm) and 9% were interviewed in the evening (after 6pm).

7.2.1 Gender

The majority of respondents (98%) in both WM and HM were females, indicative of the role that women continue to play in purchasing food for household consumption (Table 7.1).

Table 7.1: Gender of respondents

Gender	n	%
Female	746	98.5
Male	11	1.5
Total	757	100.0

A high percentage of the women interviewed (87%) were responsible for the majority of the cooking within their households. Some 10% of respondents had their mother cook for them and their families, whereas less than 2% had a servant to cook for them (see Table 7.2).

Table 7.2: The person who cooks in the household

Cook	N	%
Myself	686	87.4
Servant	13	1.7
Myself and servant	5	0.6
My mother	79	10.1
My children	1	0.1
Myself and my mother	1	0.1
Total	785	100.0

7.2.2 Age

With regard to the respondents' age, there was a significant difference in the age group of the respondents between the WM and HM (see Table 7.3). This difference justified the choice of a stratified sample for this survey, as previous research (Neven *et al.* 2006; Li and Houston 2001) had also reported significant age differences between consumers who shopped in each location.

The sample from the WM contained more mature respondents (50% in the 35-54 year old group), compared to the sample extracted from the HM which, by comparison, contained only 30% of respondents from this age group. The respondents from the HM were generally younger (18-24 years, comprising 40% of the sample) while in the WM, only 18% of the respondents were from this age group.

Table 7.3: Age group of respondents

Age group of respondents	Wet market		Hypermarket		Total	
	n	%	n	%	n	%
18-24	70	17.8	163	39.2	233	28.8
25-34	95	24.1	113	27.2	208	25.7
35-44	120	30.5	73	17.5	193	23.8
45-54	76	19.3	52	12.5	128	15.8
55-64	22	5.6	14	3.4	36	4.4
65 and above	11	2.8	1	0.2	12	1.5
Total	394	100.0	416	100.0	810	100.0
Pearson Chi-square = 64.18, df = 5, p = 0.000						

7.2.3 Marital status

The majority of respondents surveyed from both the WM (75%) and HM (58%) reported that they were married (Table 7.4). However, the percentage of respondents who were married was significantly different between the retail formats. A greater proportion of the respondents shopping in the HM were single (42%), which was no doubt related to their younger age, educational status (students) and employment (single workers).

Table 7.4: Marital status of respondents

Marital status	Wet market		Hypermarket		Total	
	n	%	n	%	n	%
Single	92	23.1	176	42.1	268	33.2
Married	297	74.8	242	57.9	539	66.8
Total	389	100.0	418	100.0	807	100.0
Pearson Chi-square = 30.94, df = 1, p = 0.000						

Cross-tabulation was then used to investigate the relationship between marital status and age of the respondents (Table 7.5). The majority of the single respondents (74%) were from the

youngest age group (18-24 years old), while the majority of the married respondents were from the age group of 25-34 years (30%) and 35-44 years (34%). As the age of the respondents increased, the percentage of married respondents fell away due to their spouses (in this case their husbands) having passed away.

Table 7.5: Marital status based on age group

Age group	Single		Married		Total	
	n	%	n	%	n	%
18 – 24	198	74.4	31	5.8	229	28.6
25 – 34	44	16.5	163	30.5	207	25.9
35 – 44	9	3.4	181	33.9	190	23.8
45 – 54	5	1.9	121	22.7	126	15.8
55 or older	10	3.8	38	7.1	48	6.0
Total	266	100.0	534	100.0	800	100.0
Pearson Chi-square =427.19, df = 4 , p = 0.000						

7.2.4 Religion

The majority of respondents in this survey (90%) were Muslims. This was the same across wet markets and hypermarket samples (Table 7.6).

Table 7.6: Religion of respondents

Religion of respondents	n	%
Islam	714	89.59
Catholic	18	2.26
Protestant	48	6.02
Buddhism	12	1.51
Hinduism	4	0.50
Other	1	0.13
Total	797	100.0

7.2.5 Education

The level of education of the respondents from the HM was significantly higher than that of the respondents from the WM (Table 7.7). The proportion of HM respondents who held either a diploma, graduate, or postgraduate qualification was 38%, while the number of WM respondents who held these education levels was only 13%. Approximately half of the respondents from the WM (52%) and HM (50%) reported that they had completed senior high school.

Table 7.7: Education of respondents

Highest level of education completed	**Wet market**		**Hypermarket**		**Total**	
	n	%	n	%	n	%
Did not complete primary school	13	3.3	1	0.2	14	1.7
Primary school	50	12.9	17	4.0	67	8.3
Junior high school	74	19.0	33	7.8	107	13.2
Senior high school	201	51.7	210	49.9	411	50.7
Diploma	15	3.9	35	8.3	50	6.2
Graduate and postgraduate	36	9.3	125	29.7	161	19.9
Total	389	100.0	421	100.0	810	100.0
Pearson Chi-square = 98.54, df = 5 , p = 0.000						

7.2.6 Occupation

There was no significant difference between the occupational groups of respondents drawn from the WM and HM. Therefore, Table 7.8 presents the combined percentage for the total sample. Most of the respondents in this study were either housewives (28%) or self-employed (29%). Students comprised 15% of the respondents, followed by employees of private companies (10%) and government (4%). The large number of students in the sample might be related to the use of student enumerators in the collection of the data for this research, as in Asia it appears to be easier to get a response from respondents in a similar age

group. However, this condition may also be related to the interview location, as all four universities in Riau are located in Pekanbaru City.

Table 7.8: Occupation of respondents

Occupation of respondents	n	%
Student	125	15.5
Housewife	226	28.0
Pensioner	2	0.2
Fully employed (government)	34	4.2
Fully employed (private companies)	80	9.9
Under-employed/part-time	20	2.5
Unemployed/looking for work	13	1.6
Self-employed (own business)	237	29.4
Other	70	8.7
Total	807	100.0

There was also no significant difference between the spouses' occupations among those respondents interviewed in the wet markets and hypermarkets. Approximately half of the respondents' spouses (mostly husbands) were self-employed (46%), with some working full-time as private company employees (24%) or government employees (9%) (see Table 7.9).

Table 7.9: Occupation of respondents' spouse

Occupation of spouses	n	%
Student	2	0.4
Housewife	5	0.9
Pensioner	18	3.4
Fully employed (government)	50	9.4
Fully employed (private companies)	125	23.5
Under-employed/part-time	9	1.7
Unemployed/looking for work	4	0.8
Self-employed (own business)	244	45.9
Other	75	14.1
Total	532	100.0

7.2.7 Ethnicity

The major ethnicities of the respondents interviewed in the WM or HM were Minangkabau (42%), followed by Malay (21%), Javanese (18%), and Bataknese (14%) (Table 7.10). However, there were more Minangkabau respondents surveyed in the WM and there were more Malay and Javanese respondents surveyed in the HM. In terms of spouses' ethnicities, these were mainly Minangkabau from both WM and HM (44%) (Table 7.11). However, the WM respondents had more spouses with Minangkabau ethnicity (54%) than did the HM respondents (32%).

Table 7.10: Ethnicity of respondents based on survey location

Ethnicity of respondents	Wet Market		Hypermarket		Total	
	n	%	n	%	n	%
Malay	66	17.7	95	24.1	161	21.0
Javanese	56	15.0	85	21.5	141	18.4
Minangkabau	192	51.5	127	32.2	319	41.5
Bataknese	52	13.9	55	13.9	107	13.9
Other	7	2.0	33	8.3	40	5.2
Total	373	100.0	395	100.0	768	100.0
Pearson Chi-square = 40.82, df = 4 , p = 0.000						

Table 7.11: Ethnicity of respondents' spouses based on survey location

Ethnicity of the spouse	Wet Market		Hypermarket		Total	
	n	%	n	%	n	%
Malay	46	16.4	48	21.4	94	18.7
Javanese	42	15.0	56	25.0	98	19.4
Minangkabau	150	53.6	72	32.1	222	44.0
Bataknese	31	11.1	26	11.6	57	11.3
Other	11	4.0	22	9.9	33	6.5
Total	280	100.0	224	100.0	504	100.0
Pearson Chi-square = 27.67, df = 4 , p = 0.000						

The higher percentage of Minangkabau ethnicity interviewed in the WM could be partly related to the fact that wet markets are the place from which most small-scale vendors operate, and those of Minangkabau ethnicity are well-known for their business acumen. According to (Heryanto 2011), the Minangkabau people are renowned as merchants, most of whom begin as small-scale informal traders. Due to this characteristic, Minangkabau ethnicities usually travel out of West Sumatra to start their small business.

The two other ethnicities (Malay and Bataknese) were both prominent due to the location of data collection. Riau is the centre for the Malay population in Sumatra, and the neighbouring province, North Sumatra, is the centre for the Bataknese ethnicity. Javanese is the largest ethnic group in Indonesia.

7.2.8 Monthly household income

To utilise monthly household income as a variable in this study, the actual household income data (IDR/month) was grouped. This was necessary because of the wide income disparity among the respondents. There were significantly more respondents from the WM who belonged to the medium income groups (30% of IDR 2,001,000 to 3,000,000 and 20% of IDR 3,001,000 to 4,500,000) compared to the respondents from the HM (Table 7.12). On the other hand, there were significantly more respondents from the HM who belonged to the higher income group of IDR 4,501,000 and more (35%) compared to the respondents from the WM (23%).

Table 7.12: Monthly household income groupTable

Monthly household income group	Wet market (n=390)		Hypermarket (n=414)		Total	
	n	%	n	%	n	%
Less than IDR 500,000	13	3.3	8	1.9	21	2.6
IDR 500,000 – 1,000,000	35	9.0	56	13.5	91	11.3
IDR 1,001,000 – 2,000,000	67	17.2	82	19.8	149	18.5
IDR 2,001,000 – 3,000,000	110	28.2	66	15.9	176	21.9
IDR 3,001,000 – 4,500,000	76	19.5	57	13.8	133	16.5
IDR 4,501,000 – 6,000,000	50	12.8	64	15.5	114	14.2
IDR 6,001,000 – 9,000,000	20	5.1	39	9.4	59	7.3
More than IDR 9,000,000	19	4.9	42	10.1	61	7.6
Total	390	100.0	414	100.0	804	100.0
Pearson Chi-square = 37.09 , df = 7, p = 0.000						

The income of the respondents was expected to be related to the age of the respondents. Therefore, a cross-tabulation was used to investigate the relationship between income groups and the age of the respondents (Table 7.13). More respondents (70%) from the young age group (18-25 years) were found in the lower income groups: 40% earned IDR 1,000,000 or less and 30% earned IDR 1,000,001 to 2,000,000, which was also related to their occupations as either university students or low level employees. For the older age group (55 years or older), 10% also had a low income due to being pensioners, but there were many others who had higher incomes. Income was distributed at between 18-21% among the four middle income groups (IDR 1,001,000 to 2,000,000, IDR 2,001,000 to 3,000,000, IDR 3,001,000 to 4,500,000 and IDR 4,501,000 to 6,000,000). For the older age groups (25-34, 35-44, and 45-54), most of them were found in the medium- to high-income groups up to IDR 6,000,000 due to their career level. The highest-income respondents (IDR 6,001,000-9,000,000 and more than IDR 9,000,000) were mostly from these older age groups, comprising about 10% of each age group (25-34, 35-44, and 45-54).

Table 7.13: Income group based on age group

Income (IDR)	**Age group**										
	18 - 24		**25 - 34**		**35 - 44**		**45 - 54**		**55 or older**		**Total**
	n	%	n	%	n	%	n	%	n	%	
1,000,000 or less	89	39.4	9	4.4	3	1.6	6	4.7	5	10.9	112
1,001,000-2,000,000	66	29.2	30	14.6	25	13.0	18	14.1	10	21.7	149
2,001,000-3,000,000	28	12.4	59	28.6	46	24.0	30	23.4	10	21.7	173
3,001,000-4,500,000	16	7.1	38	18.4	48	25.0	23	18.0	8	17.4	133
4,501,000-6,000,000	12	5.3	33	16.0	34	17.7	26	20.3	8	17.4	113
6,001,000-9,000,000	9	4.0	19	9.2	16	8.3	12	9.4	2	4.3	58
More than 9,000,000	6	2.7	18	8.7	20	10.4	13	10.2	3	6.5	60
Total	226	100.0	206	100.0	192	100.0	128	100.0	46	100.0	798
Pearson Chi-square = 237.68 , df = 24 , p = 0.000											

7.2.9 Frequency of income

In terms of the frequency of income received by the respondents (Table 7.14), there were significantly more respondents from the HM (89%) who received a regular monthly income compared to respondents from the WM (57%). On the other hand, there were significantly

more respondents from the WM who received irregular income (40%) compared to respondents from the HM (8%). Only 3% of respondents from both the WM and HM received a weekly income. This is as expected as it was uncommon for Indonesian households to receive income on a weekly basis.

Table 7.14: Frequency of household income

How often income is received in the household	Wet market (n=385)		Hypermarket (n=398)		Total	
	n	%	n	%	n	%
Weekly	12	3.1	12	3.0	24	3.1
Monthly	219	56.9	353	88.7	572	73.0
Irregular time	154	40.0	33	8.3	187	23.9
Total	385	100.0	398	100.0	783	100.0
Pearson Chi-square = 109.50 , df = 2 , p = 0.000						

7.2.10 Family size

There was no significant relationship between household size and survey location (Table 7.15).

Table 7.15: Number of immediate family members living in the household based on survey location

Immediate family members	Wet market		Hypermarket		Total	
	n	%	n	%	n	%
1	9	3.1	8	3.3	17	3.2
2	36	12.4	41	17.2	77	14.5
3	60	20.6	61	25.5	121	22.8
4	68	23.4	58	24.3	126	23.8
5	58	19.9	42	17.6	100	18.9
6	39	13.4	22	9.2	61	11.5
7 or more	21	7.1	7	2.8	28	5.3
Total	291	100.0	239	100.0	530	100.0
Pearson Chi-square = 10.48 , df = 6 , p = 0.106						

7.2.11 Suburbs of residence

The respondents participating in this study were drawn from all 12 suburbs in Pekanbaru City (88%), with 12% of the sample drawn from suburbs outside Pekanbaru City (Table 7.16). This table also shows the locations of the WM and HM available in Pekanbaru City that were selected as the survey locations for this study.

Most respondents in this study were drawn from Tampan (29%), due to the presence of one main wet market (Arengka morning market) and two hypermarkets (Hypermart SKA Mall and Giant hypermarket) in this suburb. Others were drawn from Marpoyan Damai (18%), where Pasar Dupa (Dupa WM) is located, and Sukajadi (11%), where Pasar Loket (Loket WM) is located.

Table 7.16: Suburbs of respondents' residence and the locations of hypermarkets/wet markets

Suburb	n	%	Wet markets located in each suburb	Hypermarkets located in each suburb
Tampan	232	**29.00**	Pasar pagi Arengka	Hypermart SKA Mall Giant hypermarket
Bukit Raya	50	6.25	-	-
Lima Puluh	5	0.63	-	-
Sail	3	0.38	-	-
Pekanbaru Kota	32	4.00	-	-
Sukajadi	84	**10.5**	Pasar Loket (Cik Puan)	-
Senapelan	49	6.13	Pasar Kodim	-
Rumbai	23	2.88	-	-
Marpoyan Damai	142	**17.75**	Pasar Dupa	-
Payung Sekaki	38	4.75	-	Hypermart Ciputra Mall Lotte Mart
Rumbai Pesisir	13	1.63	-	-
Tenayan Raya	33	4.13	-	-
Other suburbs outside Pekanbaru City area	96	**12.00**	-	-
Total	800	100.00	383	417

7.2.12 Refrigerator ownership

There was no significant difference in the ownership of refrigerators between respondents surveyed from the WM and the HM (Table 7.17). About two thirds of the respondents from both the WM and HM owned a refrigerator, indicating that the use of a refrigerator is quite common among Indonesian consumers.

Table 7.17: Refrigerator ownership

Refrigerator ownership	Wet market (n=390)		Hypermarket (n=414)		Total	
	n	%	n	%	n	%
Yes	284	72.8	306	73.9	590	73.4
No	106	27.2	108	26.1	214	26.6
Total	390	100.0	414	100.0	804	100.0
Pearson Chi-square = 0.12 , df = 1 , p = 0.726						

7.2.13 Microwave oven ownership

However, in terms of microwave oven ownership, significantly more respondents from the HM owned a microwave oven (37%) than respondents from the WM (26%) (see Table 7.18).

Table 7.18: Microwave oven ownership

Microwave oven ownership	Wet market (n=389)		Hypermarket (n=410)		Total	
	n	%	n	%	n	%
Yes	101	26.0	150	36.6	251	31.4
No	288	74.0	260	63.4	548	68.6
Total	389	100.0	410	100.0	799	100.0
Pearson Chi-square = 10.45 , df = 1 , p = 0.001						

7.2.14 Motorbike ownership

In terms of motorbike ownership, there was no significant difference between respondents from the WM and HM (Table 7.19). The majority of respondents in this study (85%) owned a motorbike because this type of vehicle is the most affordable.

Table 7.19: Motorbike ownership

Motorbike ownership	Wet market (n=388)		Hypermarket (n=413)		Total	
	n	%	n	%	n	%
Yes	328	84.5	348	84.3	676	84.4
No	60	15.5	65	15.7	125	15.6
Total	388	100.0	413	100.0	801	100.0
Pearson Chi-square = 0.01 , df = 1, p = 0.915						

7.2.15 Car ownership

In terms of car ownership, significantly more respondents from the HM (40%) owned a car than respondents from the WM (18%) (see Table 7.20).

Table 7.20: Car ownership

Car ownership	Wet market (n=373)		Hypermarket (n=406)		Total	
	n	%	N	%	n	%
Yes	66	17.7	162	39.9	228	29.3
No	307	82.3	244	60.1	551	70.7
Total	373	100.0	406	100.0	779	100.0
Pearson Chi-square = 46.31 , df = 1 , p = 0.000						

7.2.16 Credit card ownership

Significantly more respondents from the HM (25%) owned a credit card than respondents from the WM (7%) (see Table 7.21). The use of credit cards is not widespread among consumers in Indonesia. Furthermore, credit cards are usually offered only to consumers with a certain level of income.

Table 7.21: Credit card ownership

Credit card ownership	Wet market (n=341)		Hypermarket (n=386)		Total	
	n	%	n		n	%
Yes	23	6.7	95	24.6	118	16.2
No	318	93.3	291	75.4	609	83.8
Total	341	100.0	386	100.0	727	100.0
Pearson Chi-square = 42.51 , df = 1 , p = 0.000						

7.2.17 Monthly food expenditure

Table 7.22 shows the average monthly expenditure on food in the household of respondents from both WM and HM. Approximately half of the respondents (48%) spent more than IDR 1,500,000 per month, while 40% had medium to high average monthly expenditure on food (IDR 501,000 to 1,000,000, at 24%, and IDR 1,001,000 to 1,500,000, at 16%). The high monthly expenditure on food among respondents is an indication that the purchase of food is important in Indonesia.

Table 7.22: Average monthly expenditure group for food in the household

Monthly food expenditure group	n	%
Less than IDR 100,000	5	0.6
IDR 101,000 – 250,000	12	1.5
IDR 251,000 – 500,000	79	9.9
IDR 501,000 – 1,000,000	190	23.8
IDR 1,001,000 – 1,500,000	128	16.0
More than IDR 1,500,000	385	48.2
Total	799	100.0

As food expenditure in a household is expected to be related to household income, a cross-tabulation was conducted to investigate any relationship between monthly household income and monthly household food expenditure. Respondents with a lower household income (IDR 2,000,000 or less) generally spent less than IDR 500,000 per month on food. As household income increased, respondents generally spent more on their monthly food expenditure (see Table 7.23).

Table 7.23: Food expenditure based on income

Monthly household income (IDR)	**Monthly household food expenditure (IDR)**										
	250,000 or less		**251,000 - 500,000**		**501,000 – 1,000,000**		**1,000,000 – 1,500,000**		**more than 1,500,000**		**n**
	n	%	n	%	n	%	n	%	n	%	
1,000,000 or less	9	52.9	39	52.0	47	25.7	6	4.7	6	1.6	107
1,001,000-2,000,000	4	23.5	25	33.3	64	35.0	31	24.2	24	6.3	148
2,001,000-3,000,000	2	11.8	9	12.0	41	22.4	40	31.3	80	20.9	172
3,001,000-4,500,000	0	0.0	1	1.3	12	6.6	26	20.3	92	24.0	131
4,501,000-6,000,000	2	11.8	1	1.3	12	6.6	14	10.9	84	21.9	113
6,001,000-9,000,000	0	0.0	0	0.0	3	1.6	7	5.5	47	12.3	57
More than 9,000,000	0	0.0	0	0.0	4	2.2	4	3.1	50	13.1	58
Total	17	100.0	75	100.0	183	100.0	128	100.0	383	100.0	786
Pearson Chi-square = 378.77, df = 24 , p = 0.000											

Similarly, as food expenditure in a household was expected to be related to household size, a cross-tabulation was conducted to investigate the relationship between monthly food expenditure and household size. For the respondents who spent the highest amount of money on food (more than IDR 1,500,000 per month), most (60%) had four and five family members in their households (Table 7.24). Respondents who spent less per month for food (19% between IDR 1,000,000 to 1,500,000 and 18% between IDR 501,000 to 1,000,000) correspondingly had fewer family members (mostly 3 and 4) in their household. Other respondents who spent less (IDR 251,000 to 500,000) mostly had only one or two family members in the household.

Table 7.24: Food expenditure based on household size (immediate family member)

Immediate family member	Monthly household food expenditure (IDR)										
	250,000 or less		251,000 to 500,000		501,000 to 1,000,000		1,000,000 to 1,500,000		more than 1,500,000		n
	n	%	n	%	n	%	n	%	n	%	
1	0	0.0	5	26.3	4	4.4	4	4.1	3	1.0	16
2	1	33.3	4	21.1	20	22.0	17	17.5	33	10.7	75
3	0	0.0	1	5.3	28	30.8	30	30.9	59	19.1	118
4	0	0.0	2	10.5	21	23.1	23	23.7	78	25.2	124
5	1	33.3	2	10.5	9	9.9	14	14.4	73	23.6	99
6	1	33.3	2	10.5	8	8.8	6	6.2	42	13.6	59
7 or more	0	0.0	3	15.8	1	1.1	3	3.1	21	6.8	28
Total	3	100.0	19	100.0	91	100.0	97	100.0	309	100.0	519
Pearson Chi-square = 84.25, df = 24, p = 0.000											

7.2.18 Monthly expenditure on convenience food

Respondents in the survey were also asked to estimate how much they spent on convenience food, such as frozen vegetables and tinned food, each month (Table 7.25). Over one half of the respondents (53%) said that they spent less than IDR 100,000 per month on convenience food.

Table 7.25: Average monthly expenditure on practical (convenience) food

Monthly expenditure on practical food	n	%
Less than IDR 100,000	168	52.5
IDR 101,000 – 250,000	69	21.6
IDR 251,000 – 500,000	71	22.2
IDR 501,000 – 1,000,000	7	2.2
IDR 1,001,000 – 1,500,000	1	0.3
More than IDR 1,500,000	4	1.3
Total	320	100.0

7.2.19 Monthly expenditure on ready-to-eat food

Similar to the expenditure on convenience food, most of the respondents in this study also spent very little on ready-to-eat food (Table 7.26). Slightly less than one half of the respondents (46%) spent less than IDR 100,000 per month on ready-to-eat food.

Table 7.26: Average monthly expenditure group on ready-to-eat food

Monthly expenditure on ready-to-eat food	n	%
Less than IDR 100,000	192	46.3
IDR 101,000 – 250,000	103	24.8
IDR 251,000 – 500,000	97	23.4
IDR 501,000 – 1,000,000	13	3.1
IDR 1,001,000 – 1,500,000	5	1.2
More than IDR 1,500,000	5	1.2
Total	415	100.0

7.2.20 Monthly expenditure on eating out

In contrast to the relatively low level of expenditure on both convenience food and ready-to-eat food, some 30% of respondents spent from IDR 251,000 to 500,000 per month on food away from home, with 23% spending between IDR 101,000 to 250,000 per month and 27% spending less than IDR 100,000 per month (Table 7.27).

Table 7.27: Average monthly expenditure on eating out

Monthly expenditure group for eating out	n	%
Less than IDR 100,000	162	27.0
IDR 101,000 – 250,000	140	23.4
IDR 251,000 – 500,000	184	30.7
IDR 501,000 – 1,000,000	81	13.5
IDR 1,001,000 – 1,500,000	13	2.2
More than IDR 1,500,000	19	3.2
Total	599	100.0

7.3 Consumers' cross-shopping (multi store patronage)

7.3.1 Types of retailers patronized by the respondents

In terms of shopping habits in general (food and non-food), the vast majority of respondents patronised traditional wet markets (92%) (Table 7.28).

Table 7.28: Percentage of respondents who patronised different types of retail stores

Patronise	Percentage of respondents (N = 824)								
	WM	TM	MM	SM	HM	*warung*	hawker	grocer	kiosk
Yes	92.1	27.6	47.8	61.5	66.7	67.7	13.0	25.0	20.0
No	7.9	72.4	52.2	38.5	33.3	32.3	87.0	75.0	80.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(WM = traditional wet market, TM = temporary half-day market, MM = minimarket, SM = supermarket, HM = hypermarket, *warungs* = small neighbourhood stores, grocer = independent grocer/Chinese shop, kiosk = roadside stall)

Some 68% of respondents patronized neighbourhood stores (*warungs)*. Modern retail stores were gaining popularity among respondents, especially hypermarkets (67%) and supermarkets (62%), while minimarkets were patronised by about one half of respondents (48%). Other retail stores were less popular with only 28% of respondents buying from temporary markets, 25% purchasing from independent grocers, 20% from roadside kiosks and only 13% purchasing from hawkers.

7.3.2 Frequency of shopping at different types of retail stores

Traditional wet markets and *warungs* were the most frequently visited retail stores (Table 7.29). About a quarter of the respondents visited wet markets and *warungs* daily, and about 20% visited these two types of retailers 2-3 times a week. However, most respondents (34%) visited wet markets on a weekly basis. Modern food retail stores were mainly visited by respondents for their monthly shopping trips. Some 21% of respondents visited hypermarkets, 16% visited supermarkets and 10% visited minimarkets once a month.

Table 7.29: Shopping frequencies at different types of retail stores

Frequency of visits	Percentage of respondents								
	WM	TM	MM	SM	HM	*warung*	hawker	grocer	kiosk
Every day	24.6	0.6	1.4	0.4	1.5	25.0	1.8	1.8	1.2
2-3times a week	18.7	3.8	6.0	7.6	6.0	21.8	1.7	3.2	2.0
Once a week	34.1	9.4	6.3	11.0	8.7	2.7	1.2	2.8	2.2
2-3times a month	3.1	1.0	6.4	9.6	9.7	1.5	0.6	1.7	0.5
Once a month	2.2	2.2	10.0	15.8	20.7	1.2	0.4	3.7	1.6
Seldom	9.3	10.9	16.4	15.2	19.1	14.1	6.5	10.9	11.3
Never	8.0	72.2	53.6	40.4	34.2	33.7	87.8	75.9	81.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

7.3.3 Mode of transport

In getting to the different retail stores, 75% of respondents walked to *warungs* (Table 7.30). This was not surprising as most small neighbourhood stores (*warungs*) were located inside housing complexes and were only a short distance from the respondents' place of residence. Some wet markets were also within walking distance, with 16% of respondents walking there, followed by roadside kiosks (14%) and temporary markets (13%). As motorbikes are the most affordable vehicles in Indonesia, the majority of respondents (60-77%) used motorbikes to visit all types of food retailers except *warungs*. Public transport was seldom used, except for some 14% of respondents visiting the wet markets and 13% of respondents visiting hypermarkets. Car ownership is very limited in Indonesia and was used by the more affluent respondents to go to hypermarkets (23%) and supermarkets (14%). As hawkers

regularly visited housing complexes, the mode of transport was not applicable for this type of retailer.

Table 7.30: Mode of transport to retail store

Mode of transport	Percentage of respondents							
	WM	**TM**	**MM**	**SM**	**HM**	***warung***	**grocer**	**kiosk**
Main transport								
Walking	15.8	13.1	11.2	6.4	5.3	74.5	10.1	13.8
Bicycle	0.3	0.0	0.0	0.4	0.8	0.9	0.0	0.7
Motorbike	62.9	76.5	73.4	68.9	57.2	23.3	68.8	69.1
Car	7.2	3.6	7.6	14.4	23.3	0.4	13.8	10.5
Public transport	13.9	6.8	7.8	9.9	13.4	0.9	7.4	5.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Alternative transport								
Walking	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0
Bike	0.0	0.0	0.0	3.3	0.0	13.6	0.0	20.0
Motorbike	14.3	33.3	36.4	6.7	0.0	86.4	25.0	20.0
Car	38.1	11.1	13.6	13.3	30.8	0.0	0.0	20.0
Public transport	47.6	44.4	50.0	76.7	69.2	0.0	75.0	40.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In terms of alternative transport, most respondents opted to use public transport to visit hypermarkets (69%), supermarkets (77%), minimarkets (50%) and wet markets (48%), but not for *warungs*. Some of the more affluent respondents used a motorbike as an alternative mode of transport to go to wet markets (38%) and hypermarkets (31%). Bicycles were not popular, with only 14% of respondents using a bike to go to nearby *warungs*.

7.3.4 Types of products purchased by respondents from different types of retail stores

For dry food, hypermarkets were the most important retailer with almost half of the respondents purchasing there (48%), followed by supermarkets (38%), *warungs* (33%) and minimarkets (29%) (Table 7.31). For fresh fruit, the traditional wet markets were very popular with almost half of respondents purchasing from traditional wet markets (47%),

followed by hypermarkets (28%) and supermarkets (14%). For fresh vegetables, the traditional food retailers were still the main place of purchase.

Table 7.31: Percentage of respondents who purchased different types of products at different retailers

Types of products purchased	Percentage of respondents								
	WM	**TM**	**MM**	**SM**	**HM**	***warung***	**hawker**	**grocer**	**kiosk**
Dry food									
Yes	14.5	3.4	29.9	38.0	47.5	32.6	0.2	11.6	6.7
No	85.5	96.6	70.1	62.0	52.5	67.4	99.8	88.4	93.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Fruit									
Yes	46.6	6.2	5.6	14.4	27.6	1.8	1.5	1.6	7.9
No	53.4	93.8	94.4	85.6	72.4	98.2	98.5	98.4	92.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Vegetables									
Yes	87.3	16.6	2.2	3.8	7.7	40.3	12.0	2.1	1.5
No	12.7	83.4	97.8	96.2	92.3	59.7	88.0	97.9	98.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Chicken/fish									
Yes	78.6	11.8	1.5	3.1	4.6	17.9	3.8	1.6	2.0
No	21.4	88.2	98.5	96.9	95.4	82.1	96.2	98.4	98.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Frozen food									
Yes	3.8	0.9	8.1	15.0	18.9	4.3	0.1	1.7	3.3
No	96.2	99.1	91.9	85.0	81.1	95.7	99.9	98.3	96.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Detergent									
Yes	19.7	1.4	35.3	44.5	44.2	11.4	0.00	8.2	0.9
No	80.3	98.6	64.7	55.5	55.8	88.6	100.0	91.8	99.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Clothing									
Yes	26.1	7.1	2.2	7.7	18.5	0.3	0.00	5.4	1.0
No	73.9	92.9	97.8	92.3	81.5	99.7	100.0	94.6	99.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The majority of respondents purchased fresh vegetables from wet markets (87%), *warungs* (40%) and temporary markets (17%). The majority of respondents purchased fresh chicken

meat and fish from wet markets (79%), *warungs* (18%) and temporary markets (12%). On the other hand, for the purchase of frozen food, modern retailers were the most popular place of purchase due to the lack of refrigeration facilities in traditional food retailers. About 19% of respondents purchased frozen food from hypermarkets, followed by supermarkets (15%) and minimarkets (8%).

Aside from dry and frozen food, modern retailers were also gaining popularity as the preferred retail store from which to purchase non-food products such as detergent, with almost half of the respondents buying detergent from supermarkets (45%), hypermarkets (44%) and minimarkets (35%). Some 20% of respondents purchased detergent from the wet markets.

The non-food product included in the consumer survey was clothing. Related to the topic of this study, most retailers included in the survey do not sell clothing. Those retailers which provide clothing products were hypermarkets and some stalls inside the wet markets. About one quarter of respondents purchased clothing from the wet markets and 19% purchased clothing from hypermarkets.

7.3.5 Monthly food expenditure for each type of retailer

The monthly food expenditure data reveals that respondents purchased food from many different types of retail food stores. Nevertheless, the traditional wet markets still captured a significant share of consumer food spending, with 26% of respondents spending IDR 501,000 to 1,000,000, 16% spending IDR 1,001,000 to 1, 500,000 and 13% spending more than IDR 1,500,000 per month (Table 7.32).

Table 7.32: Average monthly food expenditure groups for different types of retailers

Monthly food expenditure group (IDR)	Percentage of respondents								
	WM	TM	MM	SM	HM	*warung*	hawker	grocer	kiosk
100,000 or less	11.2	59.3	47.3	32.0	21.4	48.8	73.6	45.0	84.8
101,000 to 250,000	12.2	20.6	26.4	29.7	27.7	19.1	11.0	12.4	8.3
251,000 to 500,000	21.8	10.5	18.8	23.8	29.4	18.1	14.3	22.5	6.8
501,000 to 1,000,000	26.1	7.7	6.0	9.4	14.1	11.3	1.1	13.0	-
1,001,000 to 1, 500,000	15.5	1.4	1.6	2.5	3.4	1.7	-	0.6	-
more than 1,500,000	13.2	0.5	-	2.5	4.0	0.9	-	6.5	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Hypermarkets came second, with 14% of respondents spending IDR 501,000 to 1,000,000, 3% spending IDR 1,001,000 to 1, 500,000 and 4% spending more than IDR 1,500,000 per month. For those respondents spending IDR 251,000 to 500,000 per month on food, the main food retailers were hypermarkets (29%), supermarkets (24%), independent grocers (23%) and wet markets (22%).

The majority of respondents spent very little for food each month (IDR 100,000 or less) at roadside kiosks (85%), hawkers (74%) and temporary markets (60%). For *warungs*, independent grocers and minimarkets, about half of the respondents spent a similar amount on food (IDR 100,000 or less) each month.

7.3.6 First and second most important food retail stores

The majority of respondents (62%) identified the wet market as the most important food retail store, followed by hypermarket (15%) (Table 7.33). The second most important food retailers were hypermarkets (23%), supermarkets (21%), wet markets (19%) and *warungs* (19%).

Table 7.33: First and second food retail stores

Main food retail stores	Percentage of respondents									Total
	WM	TM	MM	SM	HM	*warung*	hawker	grocer	kiosk	
First retailer	62.2	1.8	3.9	6.4	14.6	7.5	-	3.4	-	100.0
Second retailer	19.2	3.9	9.4	21.1	23.2	19.2	0.4	3.0	0.7	100.0

7.3.7 Combining/separating visits to wet market and hyper/supermarket

According to Leszczyc, Sinha and Sahgal (2004), retail agglomeration, which consists of stores which sell different products, provides consumers with more opportunity to engage in multi-purpose shopping and to reduce the total travel cost. They concluded that about 30-60% of grocery shopping trips are multi-purpose, where consumers often prefer agglomerated stores that are further away to shop for a variety of goods and do different activities on the same trip. Respondents in this study were asked whether they combined their visit to wet markets with a visit to hypermarkets/supermarkets. The results showed that most respondents (80%) did not intentionally combine their visits to wet markets and hypermarkets or supermarkets (Table 7.34). The reasons for this preference to separate visits will be discussed in the following section.

Table 7.34: Combining visit to wet market and hyper/supermarket

Combine visit to wet market and hyper/supermarket	Percentage of respondents
Yes	19.6
No	80.4
Total	100.0

7.3.8 Reasons for combining or separating visits to wet market and hyper/supermarket

To gain an insight into why consumers visit hypermarkets/supermarkets and traditional wet markets at the same time or different times, respondents were asked about their reasons for combining/separating the visits. The majority of respondents (33%) who did not combine

their visits to wet markets and hypermarkets mentioned that it was because their shopping visit was based on the types of products that they needed at that time. Twenty per cent believed that they could buy all that they needed from the one place/one visit. Other reasons were that visiting more than one place would cause them to spend more money (9%), it was tiring/troublesome (8%), a waste of time (7%), or inconvenient due to different opening times (4%) (Table 7.35). The second most popular reason given for not combining visits was the different motivation to visit a store, with 17% of respondents suggesting that they visited hypermarkets because it was refreshing (Table 7.36).

Table 7.35: Reasons to separate visits to wet market and hyper/supermarket

First reasons to separate visits (n = 409)	n	%
(My visits) depend on what products I need/my food stock at home/(the visits) are for different needs/different product types	133	32.5
One visit/one place is enough/I already purchased all my finish food supplies	91	22.2
To be wise with my expense/to save money/my money is not enough/combining visit can cause me to spend more/not wise with my money	36	8.8
Tiring/troublesome	33	8.1
To save time /it is a waste of time to combine visits	29	7.1
Different time (hypermarket/supermarket can be visited in the evening, while WM is mostly visited in the morning)	17	4.2
Generally I do not do that, only if I need to	11	2.7
HM/mall is for refreshing/bring children to play/buy children's needs	9	2.2
(I go to HM) on holiday and first week each month/I go to hypermart once a month	8	2.0
Mall is far	5	1.2
The visit was planned	4	1.0
If I go directly from WM it is difficult to carry many items	4	1.0
Super/hypermarket is expensive	3	0.7
Different directions	3	0.7
I do not go to WM because most of my needs are available in HM	3	0.7
WM is more complete and fresh	3	0.7
I go to WM once a week	2	0.5
I go to hyper/supermarket once a week	2	0.5
I can go to *warung* anytime/I go to *warung* each morning before I cook	2	0.5
There is specific budget for each	1	0.2
WM is wet	1	0.2
Hypermart is easy to be found	1	0.2
I only go to WM	1	0.2
I only go to WM and *warung*	1	0.2
I shop at places closer to my house	1	0.2
I cannot go anywhere because my kid is sick	1	0.2
Depends on my income	1	0.2
To find the cheapest alternatives for each product	1	0.2
I only buy some fish	1	0.2
I am not used to visiting many shopping places	1	0.2
Total	409	100.0

Table 7.36: Reasons to separate visits to wet market and hyper/supermarket

Second reasons to separate visits (n = 24)	n	%
(HM is) for refreshing	4	16.7
One visit is enough	2	8.3
WM is wet	2	8.3
(I visit HM) on holidays and first week each month	2	8.3
Different time (hypermarket/supermarket can be visited in the evening, while WM is mostly visited in the morning)	1	4.2
Depends on my food stock at home/what products I need	1	4.2
There is specific budget for each	1	4.2
My money is not enough	1	4.2
I only go to WM and *warung*	1	4.2
WM is closer	1	4.2
Mall is far	1	4.2
I do not go to the WM	1	4.2
It is a waste of time to combine	1	4.2
If I go to the mall I will bring my children	1	4.2
I like buying clothing more than buying food	1	4.2
I only go to hypermarket if there is promotional offers	1	4.2
I go to WM once a week	1	4.2
HM is easy to be found	1	4.2
Total	24	100.0

For the 20% of respondents in this study who combined their visits to wet markets and hypermarkets/supermarkets, the majority of respondents (62%) did so because they could meet different needs at the same time, buy products they could not find in the wet markets (17%) and to save time because the wet markets and hypermarkets were in close proximity/in the same direction (5%) (Table 7.37). Similarly, for the second reason, most respondents combined visits to the two types of retail store to meet different needs (40%) (Table 7.38).

Table 7.37: Reasons to combine visits to wet market and hyper/supermarket

First reason to combine visits (n = 117)	n	%
To complete other needs/different needs	73	62.4
To buy things which I can't find in the (wet) market	20	17.1
To save time because they were close to each other or in the same direction	6	5.1
Because my hobbies are eating and shopping	3	2.6
I am bored in wet market/for refreshing	3	2.6
To find the cheapest alternative/looking for discounted price	2	1.7
I only buy some fish or vegetable from the market (so need to purchase other things by going to the HM)	2	1.7
To buy snack food	2	1.7
(I go to HM) at the same time with going to WM to save time	1	0.9
Depends on my food stocks at home/what products I need	1	0.9
Because bread is not available at the WM	1	0.9
To buy rice	1	0.9
WM seller is honest	1	0.9
To buy something which was forgotten	1	0.9
Total	117	100.0

Table 7.38: Reasons to combine visits to wet market and hyper/supermarket

Second reasons to combine visits (n = 5)	n	%
To complete other needs	2	40.0
(I combine visits) for refreshing	1	20.0
To buy cosmetics	1	20.0
Get bored in the wet market	1	20.0
Total	5	100.0

7.4 Consumers' shopping habits for specific product categories

7.4.1 Preferred retail outlets

7.4.1.1 Preferred outlets for cooking oil

Respondents were asked to identify their main, second and additional retailers for the purchase of cooking oil (Table 7.39). Based on the chosen retail stores, the most frequently cited retail stores for the purchase of cooking oil were the wet markets (30%) and hypermarkets (27%), followed by supermarkets (20%) and *warungs* (11%). These four retail stores were also selected by the respondents as the second choice of retail stores to purchase cooking oil, but *warungs* were the most popular (29%), followed by wet markets (22%), supermarkets (21%) and hypermarkets (16%). For additional retailers, the two most popular retail stores were supermarkets (37%) and *warungs* (37%).

Table 7.39: Main, secondary and additional retailers for the purchase of cooking oil

Retailer for the purchase of cooking oil	Main retailer		Secondary retailer		Additional retailer	
	N	%	N	%	N	%
Wet market	239	**29.6**	32	**22.2**	2	6.7
Hypermarket	217	**26.9**	23	**16.0**	2	6.7
Supermarket	158	**19.6**	30	**20.8**	11	**36.7**
Warung	90	**11.1**	41	**28.5**	11	**36.7**
Minimarket	63	7.8	13	9.0	2	6.7
Independent grocer	36	4.5	2	1.4	-	-
Temporary market	3	0.4	3	2.1	1	3.3
Roadside kiosk	2	0.2	-	-	-	-
Hawker	-	-	-	-	1	3.3
Total	808	100.0	144	100.0	30	100.0

7.4.1.2 Preferred outlets for fresh chicken meat

In terms of their main retail stores for the purchase of fresh chicken meat, most respondents purchased fresh chicken meat from wet markets (74%) and some purchased from *warung* (11%) (Table 7.40).

Table 7.40: Main, secondary and additional retailers for the purchase of fresh chicken meat

Retailer for the purchase of fresh chicken meat	Main retailer		Secondary retailer		Additional retailer	
	N	%	N	%	N	%
Wet market	591	**73.7**	14	**20.3**	1	16.7
Warung	93	**11.3**	23	**33.3**	1	16.7
Roadside kiosk	61	7.4	12	**17.4**	-	-
Hypermarket	27	3.3	1	1.4	1	16.7
Temporary market	14	1.7	4	5.8	-	-
Independent grocer	7	0.8	-	-	-	-
Farmer	7	0.8	5	7.2	-	-
Supermarket	1	0.1	2	2.9	1	16.7
Hawker	1	0.1	8	**11.6**	1	16.7
Minimarket	-	-	-	-	1	16.7
Total	802	100.0	69	100.0	6	100.0

Respondents' secondary choice of retail store for purchasing fresh chicken meat were *warungs* (33%), wet markets (20%), roadside kiosks (17%) and hawkers (12%).

7.4.1.3 Preferred outlets for kangkong

The wet markets were the most popular retail outlet for the purchase of kangkong (73%), followed by *warung* (19%) (Table 7.41). *Warungs* were the second most popular retail store for the purchase of kangkong for half of the survey respondents, followed by wet markets (26%). For additional retailers, *warung* was the most important outlet (47%), followed by hawkers (20%), hypermarkets (13%) and supermarkets (13%).

Table 7.41: Main, secondary and additional retailers for the purchase of kangkong

Retailer for the purchase of kangkong	Main retailer		Secondary retailer		Additional retailer	
	N	%	N	%	N	%
Wet market	580	**72.8**	36	**26.3**	-	-
Warung	149	**18.7**	69	**50.4**	7	**46.7**
Hypermarket	27	3.4	4	2.9	2	**13.3**
Temporary market	16	2.0	9	6.6	-	-
Hawker	12	1.5	11	8.0	3	**20.0**
Farmer	7	0.9	1	0.7	1	6.7
Supermarket	3	0.4	3	2.2	2	**13.3**
Roadside kiosk	3	0.4	-	-	-	-
Minimarket	-	-	2	1.5	-	-
Independent grocer	-	-	2	1.5	-	-
Total	797	100.0	137	100.0	15	100.0

7.4.2 Types of products purchased from different retail stores

7.4.2.1 Types of cooking oil purchased

In the preliminary research stage of this study, focus group interviews identified that consumers in Indonesia have two options in purchasing cooking oil: bulk and packaged cooking oil. Respondents were asked to identify whether they most often purchased bulk or packaged cooking oil from the main, secondary and additional retailer. The majority of respondents purchased packaged cooking oil from the main (69%), secondary (69%) and additional retailers (58%) (Table 7.42).

Table 7.42: Type of cooking oil purchased from the main, secondary and additional retailers

Type of cooking oil purchased	Main retailer		Secondary retailer		Additional retailer	
	N	%	N	%	N	%
Bulk	252	30.8	42	30.7	11	42.3
Packaged	565	69.2	95	69.3	15	57.7
Total	817	100.0	137	100.0	26	100.0

A cross-tabulation was then used to investigate any relationship between the type of cooking oil most often purchased (bulk or packaged cooking oil) from the main retailer with respondents' most preferred retailer for cooking oil (Table 7.43). Those respondents who purchased packaged cooking oil mainly purchased from hypermarkets (39%) or supermarkets (28%), with some respondents purchasing from wet markets (12%) or minimarkets (11%). Those respondents who purchased bulk cooking oil mainly purchased from wet markets (68%) or *warung* (23%).

Table 7.43: Main place to purchase cooking oil categorised by type of cooking oil

Main place to purchase cooking oil	**Bulk cooking oil**		**Packaged cooking oil**		**Total**
	N	%	N	%	
Wet market	169	68.4	69	12.4	238
Temporary market	1	0.4	2	0.4	3
Minimarket	-	-	63	11.4	63
Supermarket	-	-	155	27.9	155
Hypermarket	-	-	216	38.9	216
Warung	57	23.1	32	5.8	89
Independent grocer	19	7.7	17	3.1	36
Roadside kiosk	1	0.4	1	0.2	2
Total	247	100.0	555	100.0	802
Pearson Chi-square = 428.38, df = 7, p = 0.000					

The responses to the type of cooking oil purchased (bulk or packaged) were then tabulated for all respondents where the main retailer for cooking oil was wet market (WM), supermarket (SM), hypermarket (HM) or *warung* (Table 7.44). The grouping of responses supports the cross-tabulation results which showed that packaged cooking oil was mainly purchased from HM and SM, while bulk cooking oil was mainly purchased from WM and *warung*.

Table 7.44: Type of cooking oil purchased at the main retailer

Type of cooking oil purchased	All cases		If main retailer is WM		If main retailer is SM		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
Bulk	252	30.8	169	71.0	-	-	-	-	57	64.0
Packaged	565	69.2	69	29.0	155	100.0	216	100.0	32	36.0
Total	817	100.0	238	100.0	155	100.0	216	100.0	89	100.0

Respondents were also asked about the reasons for purchasing cooking oil from the main retailer, and the responses were then grouped based on selected cases (if the type purchased was bulk or packaged cooking oil) (Table 7.45). There were more respondents who purchased packaged cooking oil because they believed it was more hygienic (35%), of better/guaranteed quality (20%), it enabled them to save money (12%) and it was more practical (11%). The respondents who purchased bulk cooking oil did so because the price was cheaper (65%) and it could be purchased in a smaller quantity (11%).

Table 7.45: Reasons for purchasing the type of cooking oil from the main retailer

Reasons to purchase the type of cooking oil from the main retailer	All cases		If the type purchased was bulk cooking oil		If the type purchased was packaged cooking oil	
	N	%	N	%	N	%
More hygienic/cleaner	223	**28.3**	-	-	173	**35.0**
Cheaper	173	**22.0**	155	**65.1**	17	3.4
Higher/good/better quality/guarantee of quality	103	**13.1**	4	1.7	99	**20.0**
I have to save money	68	**8.6**	7	2.9	60	**12.1**
Practical	57	7.2	3	1.3	54	**10.9**
Family habit	27	3.4	14	5.9	13	2.6
Can buy in small quantity	26	3.3	26	**10.9**	-	-
Low cholesterol/low fat	22	2.8	-	-	22	4.5
I just like it	14	1.8	7	2.9	7	1.4
Healthy/good for health	12	1.5	-	-	12	2.4
Availability	11	1.4	2	0.8	9	1.8
Suits my need/my preference	10	1.3	10	4.2	-	-
More trust/not doubtful	6	0.8	1	0.4	5	1.0
Durable	5	0.6	-	-	4	0.8
Not easy to spill	5	0.6	1	0.4	4	0.8
Special price/promotion	4	0.5	-	-	4	0.8
I always buy the packaged one	4	0.5	2	0.8	2	0.4
I seldom fry	3	0.4	2	0.8	1	0.2
Easier to carry	2	0.3	-	-	2	0.4
Taste/tastier	2	0.3	1	0.4	1	0.2
Can be used 3-4 times for three days	2	0.3	2	0.8	-	-
Transparent/clear	2	0.3	-	-	2	0.4
For one month supply	2	0.2	1	0.4	-	-
(I buy packaged cooking oil) while I am looking around	1	0.1	-	-	1	0.2
Standard price	1	0.1	1	0.4	-	-
(Fried food is) more crunchy	1	0.1	-	-	1	0.2
It is just the same with bulk cooking oil	1	0.1	-	-	1	0.2
Number of respondents	787	100.0	239	100.0	494	100.0

Other than the question on the type of cooking oil purchased, respondents were also asked about the variety of cooking oil they purchased. Results showed that the majority of respondents (99%) purchased palm oil from the main retailer, secondary and additional retailers (Table 7.46).

Table 7.46: Variety of cooking oil mostly purchased from the main, secondary and additional retailers

Variety of cooking oil purchased	Main retailer		Secondary retailer		Additional retailer	
	N	%	N	%	N	%
Palm oil	762	99.3	107	100.0	19	100.0
Corn oil	4	0.5	-	-	-	-
Olive oil	1	0.1	-	-	-	-
Total	767	100.0	107	100.0	19	100.0

7.4.2.2 Types of fresh chicken meat purchased

Regarding the purchase of fresh chicken meat, the focus group interviews identified that consumers had the ability to purchase whole chicken, half chicken or desired portions of the chicken carcass. In the subsequent survey, respondents were asked whether they mostly purchased whole chicken, half chicken or chicken cuts from their main, secondary and additional retailer. Most respondents purchased whole chicken (70%), some 17% purchased half-chicken and 12% purchased chicken portions from their preferred retailer (Table 7.47).

Table 7.47: Type of fresh chicken meat purchased from the main, secondary and additional retailers

Types of fresh chicken meat purchased	Main retailer		Secondary retailer		Additional retailer	
	N	%	N	%	N	%
Whole chicken	572	70.3	34	54.0	1	25.0
Half chicken	142	17.4	16	25.4	2	50.0
Certain cuts/portions	100	12.3	13	20.6	1	25.0
Total	814	100.0	63	100.0	4	100.0

From their secondary retailer, more than half of the respondents purchased whole chicken (54%), some 16% purchased half chicken and 13% purchased chicken portions. Responses for the type of chicken meat purchased were then grouped for general respondents (all cases)

and selected respondents (if the main retailer for chicken meat was WM, *warung*, roadside kiosk or HM) (Table 7.48).

Table 7.48: Type of fresh chicken meat purchased at the main retailer

Type of fresh chicken meat purchased	All cases		If main retailer is WM		If main retailer is roadside kiosk		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
Whole chicken	572	70.3	169	71.6	56	91.8	8	29.6	41	46.1
Half chicken	142	17.4	48	20.3	4	6.6	6	22.2	29	32.6
Certain cuts/ portions	100	12.3	19	8.1	1	1.6	13	48.1	19	21.3
Total	814	100.0	236	100.0	61	100.0	27	100.0	89	100.0

The options to purchase whole, half or cuts of chicken were related to the choice to purchase live chicken to be slaughtered on the spot or dressed chicken which had been previously slaughtered and cleaned by the vendor. If the buyer purchased the whole chicken she/he could choose between previously slaughtered and cleaned chicken, or live chicken to be slaughtered on the spot. In the survey, respondents were asked whether they mostly purchased live chicken or dressed chicken, and the responses were tabulated for general respondents (all cases) and selected respondents (if the main retailer for cooking oil is WM, roadside kiosk, HM and *warung*) (Table 7.49).

Table 7.49: Live or dressed chicken purchased at the main retailer

Live or dressed chicken	All cases		If main retailer is WM		If main retailer is roadside kiosk		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
Live chicken	604	75.3	466	79.8	55	90.2	2	9.1	48	52.7
Dressed chicken	198	24.7	118	20.2	6	9.8	20	90.9	43	47.3
Total	802	100.0	584	100.0	61	100.0	22	100.0	91	100.0

A cross-tabulation was then used to investigate any relationship between the types of chicken meat purchased most often from the respondents' most preferred retailer for chicken meat (Table 7.50). Those respondents who purchased whole chicken mostly purchased from WM (77%) or roadside kiosk (10%). Those respondents who purchased half chicken mostly purchased from WM (79%) or *warung* (12%). For chicken cuts, almost half of the respondents purchased from WM, some 32% purchased from *warung* and 13% purchased from HM.

Table 7.50: Main place to purchase chicken by chicken cut mostly purchased there

Main place to purchase fresh chicken meat	Whole chicken		Half chicken		Selected cuts/portions		Total
	N	%	N	%	N	%	
Wet market	430	76.6	110	78.6	48	49.5	588
Temporary market	10	1.8	2	1.4	2	2.1	14
Supermarket	1	0.2	-	-	-	-	1
Hypermarket	8	1.4	6	4.3	13	13.4	27
Warung	45	8.0	17	12.1	31	32.0	93
Hawker	1	0.2	0	0.0	-	-	1
Independent grocer	4	0.7	1	0.7	2	2.1	7
Roadside kiosk	56	10.0	4	2.9	1	1.0	61
Farmer	6	1.1	-	-	-	-	6
Total	561	100.0	140	100.0	97	100.0	798
Pearson Chi-square = 104.04, df = 16, p = 0.000							

In purchasing whole/half chicken or chicken portions from their preferred retailer, respondents preferred to buy at a low price (13%), to buy cuts that suited their family needs (13%) and to purchase a sufficient quantity (10%) (Table 7.51). Other reasons which were more likely to relate to the purchase of whole chicken were to guarantee the condition of the live chicken. Other reasons which related to chicken portions were about getting the right quantity for the family, to suit the budget, or their choice was limited by the chicken cuts available from their preferred retailer. In purchasing selected chicken portions, the reasons were mostly about taste preference such as more fleshy chicken parts.

Table 7.51: Reasons to purchase particular chicken cut from the main retailer

Reasons to purchase particular chicken cut (whole/half chicken or chicken pieces) from the main retailer	1	2	Total	%
Cheap/cheaper	95	3	98	13.1
Suits my family need/preference	91	6	97	13.0
Suitable quantity	73	-	73	9.8
Guaranteed	54	4	58	7.8
Larger quantity	50	3	53	7.1
I have big family	48	3	51	6.8
Enough for daily need	33	-	33	4.4
So I can buy live chicken to check its condition	25	2	27	3.6
It is the way the chicken is sold/seller regulation/how the seller sells it	24	2	26	3.5
Enough for one eating portion	25	-	25	3.3
I prefer the whole chicken	21	2	23	3.1
Enough for my family member (only a few people)	22	-	22	2.9
Habit/family habit	20	-	20	2.7
I don't know	19	-	19	2.5
I just eat alone	18	1	19	2.5
So I can buy in small quantity	15	-	15	2.0
It is enough for 2 days consumption/it is just enough	12	-	12	1.6

Table 7.51: Reasons to purchase particular chicken cut from the main retailer cont

Reasons to purchase particular chicken cut (whole/half chicken or chicken pieces) from the main retailer	1	2	Total	%
My family like it/my children like it as fried chicken	12	-	12	1.6
Fresher	12	-	12	1.6
I just need certain pieces/cuts	10	-	10	1.3
So I can get all the parts/portions of the chicken	8	2	10	1.3
It is tastier portion/tastier	8	1	9	1.2
There is more consumable portion of that cut/more fleshy	6	-	6	0.8
I can keep it/for weekly supply	5	1	6	0.8
More guaranteed about its health	5	1	6	0.8
Practical	5	-	5	0.7
Save money/be wise with money	4	-	4	0.5
To save time/don't have to wait	4	-	4	0.5
I can see the process by myself	2	2	4	0.5
(I only buy) if I have money or for (special) occasions	2	1	3	0.4
My family does not really like to eat chicken	3	-	3	0.4
Previously slaughtered chicken is not clean and healthy	3	-	3	0.4
It can be cooked into a variety of dishes	3	-	3	0.4
More trust	3	-	3	0.4
Safer	2	-	2	0.3
Can bargain	1	1	2	0.3
So we don't get bored	2	-	2	0.3
(If less) it is not enough	1	-	1	0.1
Many choices	1	-	1	0.1
Because the *warung* does not sell the whole chicken	1	-	1	0.1
For resale	-	1	1	0.1
Number of respondents	748	36		

Respondents were then asked whether they purchased live chicken to be slaughtered at the place of purchase or dressed chicken which had been previously slaughtered and cleaned by the main, secondary and other retailers. The majority of respondents purchased live chicken to be slaughtered on the spot (75%), with one quarter of respondents purchasing dressed chicken from the main retailer (Table 7.52). Similarly, the majority of respondents

purchased live chicken (60%) from secondary retailers with 40% purchasing dressed chicken.

Table 7.52: Live or dressed chicken purchased from the main, secondary and additional retailers

Live or dressed/slaughtered chicken	Main retailer		Secondary retailer		Additional retailer	
	N	%	N	%	N	%
Live chicken to be slaughtered on the spot	604	75.3	38	60.3	2	40.0
Previously slaughtered chicken	198	24.7	25	39.7	3	60.0
Total	802	100.0	63	100.0	5	100.0

The main reasons given by those respondents who purchased live chicken were the guarantee of quality (44%) and freshness (25%), while the reasons for purchasing dressed chicken were that it was more practical (39%), quicker (36%), could be cooked immediately (7%) and because live chicken was not available (5%) (Table 7.53).

Table 7.53: Reasons to purchase live or dressed chicken from the main retailer

Reasons to purchase live or dressed chicken from the main retailer	All cases		If the type purchased was live chicken		If the type purchased was dressed chicken	
	N	%	N	%	N	%
More guaranteed/guarantee of quality/higher quality	255	33.4	253	44	2	1.1
Can be sure about the freshness/fresher/not carrion chicken	144	18.8	141	24.5	3	1.6
Practical/easier	84	11.0	11	1.9	73	39.0
Quicker/I don't have to wait	69	9.0	1	0.2	68	36.4
I can see the process by myself/I can be sure how it is slaughtered	50	6.5	48	8.3	1	0.5
Guarantee/sure about halal status	41	5.4	39	6.8	2	1.1
More guaranteed that healthy chicken is slaughtered	30	3.9	29	5.0	1	0.5
More trust/sure	22	2.9	22	3.8	-	-
More hygienic/clean	10	1.3	10	1.7	-	-
Can be cooked immediately	13	1.7	-	-	13	7.0
Live chicken is not available there	12	1.6	3	0.5	9	4.8
I just like/prefer that way	7	0.9	1	0.2	6	3.2
Can be sure about condition of the chicken/know the chicken condition	5	0.7	5	0.9	-	-
Vigilance	4	0.5	4	0.7	-	-
Because I only buy half chicken/small quantity	4	0.5	-	-	4	2.1
Habit	2	0.3	2	0.3	-	-

Table 7.53: Reasons to purchase live or dressed chicken from the main retailer cont

Reasons to purchase live or dressed chicken from the main retailer	All cases		If the type purchased was live chicken		If the type purchased was dressed chicken	
Suits my need/my family need/preference	1	0.1	1	0.2	-	-
It is the way the chicken is sold/seller regulation	1	0.1	-	-	1	0.5
I just need certain pieces/cuts	1	0.1	1	0.2	-	-
More satisfying	1	0.1	1	0.2	-	-
I cannot slaughter the chicken by myself	1	0.1	1	0.2	-	-
I can slaughter the chicken by myself	1	0.1	1	0.2	-	-
Can choose	1	0.1	-	-	1	0.5
Cheap/cheaper	1	0.1	-	-	1	0.5
Quick paying process	1	0.1	-	-	1	0.5
Urgent need	1	0.1	1	0.2	-	-
Enough for guests	1	0.1	-	-	1	0.5
Number of respondents	763	100.0	575	100.0	187	100.0

A cross-tabulation was then used to investigate the relationship between the choice of live chicken or dressed chicken by the respondents' most preferred retailer for chicken (Table 7.54). The majority of respondents who purchased live chicken to be slaughtered on the spot purchased the chicken from WM (79%), and some purchased from *warung* (9%) or roadside kiosks (8%). Those respondents who purchased dressed chicken also purchased from WM (61%), some purchased from *warung* (22%) and some 10% from HM.

Table 7.54: Main place to purchase chicken by selection of live or dressed chicken purchased

Main place to purchase fresh chicken meat	Live chicken to be slaughtered on the spot		Dressed/previously slaughtered chicken		Total
	n	%	n	%	
Wet market	466	78.7	118	60.8	584
Temporary market	8	1.4	6	3.1	14
Supermarket	1	0.2	-	-	1
Hypermarket	2	0.3	20	10.3	22
Warung	48	8.1	43	22.2	91
Hawker	1	0.2	-	-	1
Independent grocer	5	0.8	1	0.5	6
Roadside kiosk	55	9.3	6	3.1	61
Farmer	6	1.0	-	-	6
Total	592	100.0	194	100.0	786
Pearson Chi-square = 95.69, df = 8, p = 0.000					

For the second retailer (Table 7.55), the main reasons for purchasing were also the guarantee of quality (23%) and freshness (17%), but 11% of respondents mentioned that they purchased dressed chicken because live chicken was not available.

Table 7.55: Reasons to purchase live or dressed chicken from the secondary retailer

Reasons to purchase live or dressed chicken from the second retailer	Total	%
More guaranteed/guarantee of quality/higher quality	12	22.7
Can be sure about the freshness of the chicken/not carrion chicken	9	17.0
Because live chicken is not available there	6	11.3
I just like/prefer that way	5	9.4
Practical/easier	4	7.5
I can see the process by myself	3	5.7
More guaranteed about its health/can guarantee that healthy chicken is slaughtered/more healthy/free from disease	3	5.7
Quicker/I don't have to wait	2	3.8
It is the way the chicken is sold/seller regulation/how the seller sells it	2	3.8
Can be cooked immediately	2	3.8
More hygienic/clean	1	1.9
I just need certain pieces/cuts	1	1.9
Urgent	1	1.9
Enough for guests	1	1.9
Because the seller has put the chicken in the refrigerator	1	1.9
Total	53	100.0

7.4.2.3 Types of fresh kangkong purchased

For fresh kangkong, the majority of respondents purchased ground kangkong from the main (81%), secondary (78%) and other retailers (77%) (Table 7.56).

Table 7.56: Type of kangkong purchased from the main, second and additional retailers

Type of kangkong purchased	Main retailer		Secondary retailer		Other retailer	
	N	%	N	%	N	%
Water kangkong	154	19.2	26	21.8	3	23.1
Ground kangkong	648	80.8	93	78.2	10	76.9
Total	802	100.0	119	100.0	13	100.0

Most respondents purchased ground kangkong because it was tastier (42%) and cleaner/not planted in dirty water (17%) compared to water kangkong (Table 7.57).

Table 7.57: Reasons to purchase the type of kangkong purchased from the main retailer

Reasons to purchase the type of kangkong from the main retailer	All cases		If the type purchased was water kangkong		If the type purchased was ground kangkong	
	N	%	N	%	N	%
Tasty/tastier	311	39.3	44	29.1	265	41.8
Clean/cleaner/hygienic/not planted in dirty water/river	115	14.6	5	3.3	109	17.2
I just like it	85	10.7	28	18.5	54	8.5
That is the most available/availability/sold in wet market	57	7.2	20	13.2	37	5.8
Softer texture	45	5.7	7	4.6	38	6.0
Get used to it/habit	44	5.6	13	8.6	31	4.9
Quality guaranteed	23	2.9	4	2.6	19	3.0
The leaves are tender	22	2.8	7	4.6	15	2.4
Fresh/fresher	20	2.5	3	2.0	17	2.7
Sweet/sweeter	12	1.5	3	2.0	9	1.4
Healthy/safe/no pesticides	12	1.5	4	2.6	9	1.4
Crunchy/strong texture/fibrous	11	1.4	4	2.6	7	1.1
Stay fresh longer	6	0.8	-	-	6	0.9
Practical to cook/quick cooking	6	0.8	3	2.0	3	0.5
Water kangkong contains lots of worm/dirt	5	0.6	-	-	5	0.8
Cheap	5	0.6	4	2.6	1	0.2
Not slimy	5	0.6	-	-	5	0.8
Greener	3	0.4	1	0.7	2	0.3
I like both water and ground kangkong	2	0.3	-	-	1	0.2
Trust the product	1	0.1	-	-	1	0.2
Large leaves	1	0.1	1	0.7	-	-
Number of respondents	791	100.0	151	100.0	634	100.0

7.4.3 Frequency of purchase of the three food products from different retail stores

7.4.3.1 Frequency of purchase of cooking oil

Irrespective of the preferred retail store, most respondents purchased cooking oil monthly (31%) or weekly (28%) from the main retailer (Table 7.58).

Table 7.58: Frequency of purchase of cooking oil from the main retailer

Frequency of purchase of cooking oil	All cases		If main retailer is WM		If main retailer is SM		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
Every day	61	7.6	38	16.7	2	1.3	1	0.5	9	10.0
2-3times a week	139	17.4	66	29.1	15	9.7	14	6.7	25	27.8
Once a week	222	27.8	79	34.8	34	21.9	49	23.3	27	30.0
2-3times a month	107	13.4	19	8.4	35	22.6	27	12.9	13	14.4
Once a month	245	30.7	19	8.4	67	43.2	110	52.4	11	12.2
Seldom	25	3.1	6	2.6	2	1.3	9	4.3	5	5.6
Total	799	100.0	227	100.0	155	100.0	210	100.0	90	100.0

For those respondents who mostly purchased cooking oil from WM, they purchased more often, weekly (35%), 2-3 times per week (29%) and some respondents even purchased on a daily basis (17%). On the other hand, respondents who mostly purchased cooking oil from SM purchased less frequently (monthly) (43%), with some 22% purchasing 2-3 times a month and 23% purchasing weekly. For those respondents who mostly purchased cooking oil from HM, more than half of them purchased cooking oil on a monthly basis and some 23% purchased once a week. For those respondents who mainly purchased cooking oil from *warung*, they mostly purchased weekly (30%) or 2-3 times a week (28%), with some 10% purchasing daily.

7.4.3.2 Frequency of purchase of fresh chicken meat

Most respondents, in general, purchased fresh chicken meat once a week (34%) or 2-3 times a week (19%). Because most respondents identified the WM as their main retailer from which to buy fresh chicken meat, those respondents who purchased chicken meat from the WM most often purchased chicken meat weekly (37%) or 2-3 times a week (19%) (Table 7.59).

Respondents who mostly purchased chicken meat from *warungs* purchased less often. Most of them seldom purchased chicken meat (37%). Some 22% purchased chicken meat 2-3 times a month, some purchased chicken weekly (16%) or 2-3 times a week (16%). Only a few respondents identified HM as their main retailer for the purchase of chicken meat and only one respondent primarily purchased chicken meat from SM.

Table 7.59: Frequency of purchase of fresh chicken meat from the main retailer

Frequency of purchase of fresh chicken meat	All cases		If main retailer is WM		If main retailer is roadside kiosk		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
Every day	20	2.5	11	1.9	3	5	1	3.7	3	3.2
2-3times a week	156	19.2	113	19.3	16	26	2	7.4	15	16.1
Once a week	273	33.6	216	36.8	20	33	11	40.7	15	16.1
2-3times a month	101	12.4	66	11.2	6	10	2	7.4	20	21.5
Once a month	72	8.9	57	9.7	3	5	-	-	6	6.5
Seldom	191	23.5	124	21.1	13	21	11	40.7	34	36.6
Total	813	100.0	587	100.0	61	100.0	27	100.0	93	100.0

7.4.3.3 Frequency of purchase of fresh kangkong

Most respondents in general purchased fresh kangkong 2-3 times a week (30%) or once a week (29%) (Table 7.60). As most respondents purchased kangkong from WM, they mostly purchased kangkong 2-3 times a week (30%) or once a week (30%). For those respondents who mostly purchased kangkong from *warungs*, they similarly purchased kangkong 2-3 times a week (34%) or once a week (26%). Only a few respondents identified SM and HM as their main retailer for the purchase of kangkong.

Table 7.60: Frequency of purchase of kangkong from the main retailer

Frequency of purchase of kangkong	All cases		If main retailer is WM		If main retailer is SM		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
Every day	57	7.1	41	7.2	-	-	1	3.8	10	6.8
2-3times a week	241	30.1	171	29.9	-	-	3	11.5	50	33.8
Once a week	234	29.3	169	29.6	1	33.3	9	34.6	38	25.7
2-3times a month	57	7.1	39	6.8	-	-	-	-	15	10.1
Once a month	21	2.6	16	2.8	-	-	-	-	3	2.0
Seldom	190	23.8	135	23.6	2	66.7	13	50.0	32	21.6
Total	800	100.0	571	100.0	3	100.0	26	100.0	148	100.0

7.4.4 Quantity of purchase of the three food products from different retail stores

7.4.4.1 Quantity of purchase of cooking oil

Most respondents, in general, purchased 1-2.5 l of cooking oil from their most preferred retailer (61%) (Table 7.61). As discussed in Chapter 5, bulk cooking oil was sold by weight (250 g, 500 g and 1 kg) while packaged cooking oil was sold in litre.

Table 7.61: Frequency of purchase of cooking oil from the main retailer

Quantity of one purchase of cooking oil (g or l)	All cases		If main retailer is WM		If main retailer is SM		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
250-500 g	104	12.8	69	29.2	-	-	-	-	26	28.8
550-950 g	8	0.9	3	1.3	-	-	1	0.5	4	4.4
1-2.5 l	493	60.5	139	58.9	109	69.4	117	54.2	55	61.1
3-4 l	107	13.1	14	5.9	29	18.5	45	20.8	1	1.1
4.5-10 l	90	10.9	9	3.8	16	10.2	51	23.6	4	4.4
10.5-20 l	8	0.9	2	0.8	3	1.9	2	0.9	-	-
20.5-40 l	4	0.4	-	-	-	-	-	-	-	-
Total	814	100.0	236	100.0	157	100.0	216	100.0	90	100.0

Those respondents who purchased from the WM (59%) most often purchased 1-2.5 l cooking oil, but 29% of respondents purchased only 250-500 g of cooking oil from WM. For the majority of respondents (70%) who identified SM as their most preferred retailer for the purchase of cooking oil they also purchased 1-2.5 l cooking oil. However, 20% of them purchased 3-4 l. For those respondents who identified HM as their main retailer for the purchase of cooking oil, more than half of them (54%) purchased 1-2.5 l of cooking oil, but more respondents (24%) purchased a larger quantity of 4.5-10 l and 21% purchased 3-4 l of cooking oil. The majority (61%) of those respondents who identified *warung* as the main retailer for cooking oil also purchased 1-2.5 l of cooking oil from *warung*, but 29% of them purchased only 250-500 g.

7.4.4.2 Quantity of purchase of fresh chicken meat

In general, most respondents (70%) (all cases) purchased whole chicken. Most respondents purchased 1.05-1.50 kg (35%), 0.55-1 kg (27%) or 1.55-2.00 kg (17%) of chicken from their preferred retailer (Table 7.62).

Table 7.62: Quantity of purchase of fresh chicken meat from the main retailer

Quantity of one purchase of fresh chicken meat (kg)	All cases		If main retailer is WM		If main retailer is roadside kiosk		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
0.25 or less	28	3.6	12	2.1	-	-	1	5.0	14	15.6
0.26-0.50	101	12.9	66	11.5	4	7	3	15.0	23	25.6
0.55-1.00	208	26.5	166	29.0	10	18	5	25.0	19	21.1
1.05-1.50	271	34.6	203	35.5	24	42	7	35.0	21	23.3
1.55-2.00	136	17.4	96	16.8	16	28	2	10.0	11	12.2
2.05-3.00	29	3.7	22	3.8	2	4	2	10.0	1	1.1
3.05-5.00	20	2.6	7	1.2	1	2	-	-	1	1.1
More than 5.00	1	0.1	-	-	-	-	-	-	-	-
Total	784	100.0	572	100.0	57	100.0	20	100.0	90	100.0

For those respondents who purchased chicken meat from WM, 36% purchased 1.05-1.50 kg and 29% purchased 0.55-1.00 kg. Only a few respondents purchased chicken meat from SM and HM. Respondents who purchased chicken meat from *warungs* not only purchased less often, but they also purchased a smaller quantity. Most of them purchased only 0.26-0.50 kg (26%) of chicken meat, with some purchasing 1.05-1.50 kg (23%) or 0.55-1.00 kg (21%). More respondents (16%) purchased 250 gm or less from *warungs*.

7.4.4.3 Quantity of purchase of fresh kangkong

Most respondents in general (all cases) purchased half to one bunch (57%) or 1.5-2 bunches (33%) of kangkong from their main retailer. Most respondents identified WM (N = 577) and *warungs* (N = 148) as their main retailer for kangkong (Table 7.63)

Table 7.63: Quantity of purchase of kangkong from the main retailer

Quantity of one purchase of kangkong (bunch)	All cases		If main retailer is WM		If main retailer is SM		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
0.5-1.0	456	56.6	327	56.7	2	66.7	13	50.0	93	62.8
1.5-2.0	267	33.1	185	32.1	1	33.3	11	42.3	48	32.4
2.5-4.5	72	8.9	56	9.7	-	-	2	7.6	7	4.7
5.0-10.0	11	1.4	9	1.6	-	-	-	-	-	-
Total	806	100.0	577	100.0	3	100.0	26	100.0	148	100.0

Those respondents who purchased kangkong from WM purchased 0.5-1.0 bunch (57%) and 1.5-2.0 bunches (32%) of kangkong. Only a few respondents identified SM and HM as the main retailer for kangkong. The majority of the respondents who purchased kangkong from *warung* purchased 0.5-1.0 bunch (63%) but some purchased 1.5-2.0 bunch (32%) of kangkong. However, slightly more respondents purchased a smaller quantity (half to one bunch) from *warung* compared to all cases.

7.4.5 Price of the three products purchased from the main retailers

7.4.5.1 Price of cooking oil

Respondents were asked about the price they paid for cooking oil from their most preferred retailer. Their responses were tabulated for all respondents and selected respondents where the main store for the purchase of cooking oil was a wet market (WM), supermarket (SM), hypermarket (HM) or *warung* (Table 7.64).

Table 7.64: Price of cooking oil at the main retailer

Price of cooking oil (IDR/l) or IDR/kg	All cases		If main retailer is WM		If main retailer is SM		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
2,500-5,000	23	3.0	14	6.2	-	-	-	-	7	8.2
5,500-10,000	203	**26.2**	108	**47.6**	15	10.1	19	9.4	36	**42.4**
10,500-15,000	308	**39.8**	74	**32.6**	69	**46.3**	86	**42.6**	33	**38.8**
15,500-20,000	119	15.4	11	4.8	35	**23.5**	50	**24.8**	5	5.9
20,500-25,000	117	15.1	20	8.8	30	**20.1**	43	**21.3**	4	4.7
More than 25,000 (26,000)	4	0.5	-	-	-	-	4	2.0	-	-
Total	774	100.0	227	100.0	149	100.0	202	100.0	85	100.0

In general, most respondents (40%) paid either IDR 10,500-15,000 or IDR 5,500-10,000 (26%) for one litre of cooking oil from their preferred retailer. Respondents who purchased cooking oil from the WM paid IDR 5,500-10,000 (48%) and IDR 10,500-15,000 (33%). Similar to WM, those respondents who purchased cooking oil from *warung* paid IDR 5,500-10,000 (42%) and 10,500-15,000 (39%) per litre. Almost half of those respondents who purchased cooking oil from SM paid IDR 10,500-15,000, but some paid IDR 15,500-20,000 (24%) and IDR 20,500-25,000 (20%) per litre cooking oil. Similar to SM, those respondents who purchased cooking oil from HM also paid IDR 10,500-15,000 (43%), IDR 15,500-20,000 (25%) and IDR 20,500-25,000 (21%) per litre.

7.4.5.2 Price of fresh chicken meat

For fresh chicken meat, the price ranged between IDR 15,250-25,000 per kg. Most respondents in general paid IDR 20,250-25,000 (46%) or IDR 15,250-20,000 (36%) per kg of fresh chicken meat (Table 7.65).

Table 7.65: Price of fresh chicken meat at the main retailer

Price of fresh chicken meat (IDR/kg)	All cases		If main retailer is WM		If main retailer is roadside kiosk		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
6,000-10,000	22	2.8	9	1.6	-	-	1	5.0	12	13.6
10,250-15,000	50	6.4	29	5.1	1	2	2	10.0	16	18.2
15,250-20,000	277	**35.5**	207	**36.1**	28	49	1	5.0	24	**27.3**
20,250-25,000	355	**45.5**	277	**48.3**	24	42	9	**45.0**	28	**31.8**
25,250-30,000	45	5.8	31	5.4	1	2	4	**20.0**	6	6.8
30,250-35,000	11	1.4	4	0.7	2	4	3	**15.0**	-	-
35,250-40,000	6	0.8	3	0.5	1	2	-	-	-	-
40,250-45,000	8	1.0	7	1.2	-	-	-	-	1	1.1
45,250-50,000	5	0.6	4	0.7	-	-	-	-	1	1.1
50,250-55,000	1	0.1	1	0.2	-	-	-	-	-	-
55,250 or more (80,000)	1	0.1	1	0.2	-	-	-	-	-	-
Total	781	100.0	573	100.0	57	100.0	20	100.0	88	100.0

Similar to this, those respondents who purchased chicken meat from WM also paid IDR 20,250-25,000 (48%) and IDR 15,250-20,000 (36%) per kg. Those respondents who purchased chicken meat from *warung* paid IDR 20,250-25,000 (32%) and IDR 15,250-20,000 (27%) per kg. Only a few respondents purchased chicken meat from HM and these respondents paid IDR 20,250-25,000 (45%), IDR 25,250-30,000 (20%) or IDR 30,250-35,000 (15%) per kg.

7.4.5.3 Price of fresh kangkong

Respondents were then asked to indicate the price they paid when purchasing one bunch of fresh kangkong from their preferred retailers. Almost half of the general respondents (all cases) paid IDR 1,750-2,000 and some 26% paid IDR 1,250-1,500 per bunch of kangkong from their preferred retail store (Table 7.66). Those respondents who purchased kangkong from WM paid IDR 1,750-2,000 (50%) and IDR 1,250-1,500 (28%) per bunch of kangkong. Those respondents who purchased kangkong from *warung* paid IDR 1,750-2,000 (48%), IDR 1,250-1,500 (19%) and some paid as much as IDR 2,250-2,500 (15%). Only a few respondents purchased kangkong from HM. Some 19% paid a similar price to the WM (IDR

1,750-2,000) but most of them paid a much higher price per bunch of IDR 2,750-3,000 (31%) and IDR 3,250-3,500 (19%).

Table 7.66: Price of kangkong at the main retailer

Price of kangkong (IDR/bunch)	All cases		If main retailer is WM		If main retailer is SM		If main retailer is HM		If main retailer is *warung*	
	N	%	N	%	N	%	N	%	N	%
500-1,000	87	10.9	68	11.9	-	-	-	-	15	10.2
1,250-1,500	208	**26.0**	161	**28.1**	-	-	4	15.4	28	**19.0**
1,750-2,000	386	**48.3**	288	**50.3**	1	33.3	5	**19.2**	71	**48.3**
2,250-2,500	64	8.0	32	5.6	1	33.3	3	11.5	22	**15.0**
2,750-3,000	42	5.3	21	3.7	-	-	8	**30.8**	9	6.1
3,250-3,500	5	0.6	-	-	-	-	5	**19.2**	-	-
3,750-4,000	2	0.3	1	0.2	-	-	-	-	1	0.7
4,250-4,500	-	-	-	-	-	-	-	-	-	-
4,750-5,000	4	0.5	1	0.2	-	-	1	3.8	1	0.7
More than 5,000	1	0.1	-	-	1	33.3	-	-	-	-
Total	799	100.0	572	100.0	3	100.0	26	100.0	147	100.0

7.4.6 Reasons to purchase the three products from the main retailer

7.4.6.1 Reasons to purchase cooking oil

Respondents were asked about their reasons to purchase cooking oil from their most preferred retail store. The responses from the open-ended questions were tabulated for all respondents/cases and grouped based on selected respondents if the preferred retailer for the purchase of cooking oil was a WM, SM, HM or *warungs* (Table 7.67).

Table 7.67: Reasons to purchase cooking oil from the main retailer

Reasons to purchase cooking oil from the main retailer	%				
	All cases	If main retailer is WM	If main retailer is SM	If main retailer is HM	If main retailer is *warung*
Cheaper/more affordable	38.4	63.2	24.3	27.2	8.4
Closer/closer to my house/same street	22.9	34.3	4.1	4.2	77.1
Promotions/special offers/special prices	17.8	0.5	32.4	37.2	1.2
Convenience	4.7	-	7.4	10.5	-
Together with other purchase/other things/together with going to the WM/weekly shopping	4.4	10.3	2.0	3.1	-
Get used to/habit	4.0	4.9	3.4	4.7	3.6
Clean/more hygienic	3.7	-	7.4	6.8	-
Can buy for monthly stock	3.7	1.5	6.1	7.3	-
Refreshing/relaxing	1.9	0.5	0.7	6.3	-
Many choices/many products	1.8	0.5	4.1	2.1	-
Good/suitable price/standard price	1.5	0.5	2.7	1.0	-
I can save/benefit me	1.4	-	1.4	3.1	-
To purchase dry foods/durable items/packaged cooking oil	1.3	-	4.7	-	-
Complete/all is there	1.3	2.0	-	1.6	2.4
Practical/quick/(urgent need)	1.3	2.0	0.7	0.5	2.4
Great price range	1.0	-	1.4	1.0	2.4
I just like it/want it/in the mood	1.0	-	2.7	1.6	-
Easy access/easy to get to/easy to find	1.0	0.5	1.4	-	-
There is a price label/clear price tag	0.8	-	2.0	-	-
Guaranteed/good quality	0.8	-	1.4	1.6	-
To buy daily necessities/need to replenish stock/kitchen supplies	0.7	0.5	0.7	1.0	-
Can buy in small quantity	0.6	1.0	-	-	2.4
Freshness/fresh/fresher	0.6	0.5	1.4	-	-
Know the seller	0.6	1.5	-	-	-
I work here/I am a WM seller	0.4	0.5	-	0.5	1.2
Taste/tastier	0.3	-	-	1.0	-
Nice place/large size	0.3	-	0.7	0.5	-
Because I don't visit WM	0.1	-	-	-	1.2
Because bulk cooking oil is only available in *warung*	0.1	0.5	-	-	-
Self-select/can take by myself	0.1	-	0.7	-	-
I can order cooking oil	0.1	-	0.7	-	-
Window shopping/look around	0.1	-	0.7	-	-
WM and mall are the same	0.1	1.0	-	-	1.2
Safety	0.1	-	-	-	-
Number of respondents	721	204	148	191	83

In general, for all respondents (all cases), the main reasons given to purchase cooking oil from the preferred retail store were because it was cheaper/more affordable (38%), closer (23%) or because the product was on promotions/special price (18%). For those respondents who preferred to purchase cooking oil from WM, the main reasons were because the price is cheaper (63%) and the WM was closer (34%). For those respondents who preferred to purchase cooking oil from SM, the main reasons were because the cooking oil was on promotion/special price (32%) and cheaper (24%). Similar to SM, respondents who mainly purchased cooking oil from HM did so due to promotions/special prices (37%) and cheaper prices (27%). For those respondents who mainly purchased cooking oil from *warung*, the main reason was because this retail store was within close proximity (77%).

7.4.6.2 Reasons to purchase fresh chicken meat

The preferred retailers identified by respondents as the place to purchase fresh chicken meat were WM (N = 531), *warung* (N = 87) and roadside kiosk (N = 57). Only a few respondents identified HM (N = 24) and SM (N = 1) as the main retailer from which they purchased fresh chicken meat. In purchasing fresh chicken meat from their most preferred retailer, the main reasons were because the price was cheaper (45%), the shop was closer (27%) and the chicken was fresh (16%) (Table 7.68). For those respondents who preferred to purchase fresh chicken meat from the WM, the main reasons for doing so were the lower/cheaper/more affordable price (53%), freshness (19%) and the shop was closer (15%). For those respondents who mainly purchased fresh chicken meat from *warung*, the main reason identified was because the shop was closer (89%). Meanwhile, for those respondents who mainly purchased fresh chicken meat from roadside kiosk, the main reasons identified were because the price was cheaper (42%) and the kiosk was closer (39%). For the few respondents who identified HM as their preferred retailer for the purchase of fresh chicken meat, the main reasons were because the shop was clean/hygienic (46%) and the chicken meat was fresh (25%).

Table 7.68: Reasons to purchase fresh chicken meat from the main retailer

Reasons to purchase chicken from the main retailer	%				
	All cases	If main retailer is WM	If main retailer is kiosk	If main retailer is HM	If main retailer is *warung*
Cheaper/affordable	45.3	53.3	42.1	-	6.9
Closer/closer to my house/same street	26.7	15.4	38.6	12.5	88.5
Freshness/fresh/fresher	15.5	18.9	3.6	25.0	1.1
Get used to/habit	3.8	4.1	3.5	8.3	-
Know the seller/friendly seller	3.7	3.6	3.5	-	-
Together with other purchase/other things	3.4	4.3	-	4.2	-
Many choices/many products	2.7	3.6	-	-	-
Can choose live chicken	2.6	2.6	-	-	-
I can make sure the chicken is slaughtered properly on-the-spot/I can see by myself	2.2	2.6	3.4	-	1.1
Clean/more hygienic	2.1	0.4	1.8	45.8	-
Guaranteed/good quality	1.5	1.9	-	-	-
Complete/all is there	1.4	1.3	-	4.2	1.1
Easy access/easy to get to/easy to find	1.2	0.9	1.8	-	-
Can bargain	1.0	1.1	-	-	1.1
Self-select/can take by myself	0.8	1.1	-	-	-
To buy daily necessities/need to replenish stock/kitchen supplies	0.8	0.9	-	4.2	-
Suitable price/standard price	0.7	0.8	-	-	1.1
Can buy a lot/lots of stock	0.7	0.8	-	-	-
Large size/scale	0.6	0.6	1.8	-	-
Quick/can be cooked quickly	0.4	0.6	-	-	-
Great price range	0.4	0.2	-	-	1.1
The only fresh food seller nearby	0.4	0.6	-	-	2.3
I work here (I am a WM seller)	0.4	0.6	-	-	-
Refreshing/different environment	0.3	0.2	-	4.2	-
Can be sure about halal status	0.3	0.4	-	-	-
Many people shop there	0.3	0.2	-	-	-
Shopping after work	0.1	0.2	-	-	-
Convenience	0.1	0.2	-	-	-
I can save/benefit me	0.1	0.2	-	-	-
Urgent need	0.1	0.2	-	-	-
Can buy in small quantity	0.1	0.2	-	-	-
I can slaughter the chicken by myself there	0.1	0.2	-	-	-
Trust the product	0.1	-	-	4.2	-
Air conditioning	0.1	-	-	4.2	-
I seldom eat chicken	0.1	0.2	-	-	-
Healthy	0.1	0.2	-	-	-
Number of respondents	731	531	57	24	87

7.4.6.3 Reasons to purchase fresh kangkong

Similar to fresh chicken meat, the preferred retailers for the purchase of kangkong were WM (N = 526) and *warung* (N = 132). Only a few respondents identified SM (N = 3) and HM (N = 23) as main retail store from which to purchase fresh kangkong. In purchasing fresh kangkong from their preferred retailer, the main reasons were that the kangkong was fresher (45%), the price was cheaper (33%) and the store was close to the respondents' place of residence (29%) (Table 7.69).

For those respondents who preferred to purchase fresh kangkong from WM, the main reasons given were because the kangkong was fresher/greener (53%), the price was cheaper (42%) and the WM was closer (15%). For those respondents who mainly purchased fresh kangkong from *warung*, the main reason identified was because the shop was closer (89%). For those few respondents who identified HM as their main retailer to purchase fresh kangkong, the main reasons were because the shop was clean/hygienic (39%) and the kangkong was fresh (39%).

Table 7.69: Reasons to purchase fresh kangkong from the main retailer

Reasons to purchase kangkong from the main retailer	%				
	All cases	If main retailer is WM	If main retailer is SM	If main retailer is HM	If main retailer is *warung*
Freshness/fresh/fresher/greener	44.7	53.2	25.0	39.1	9.8
Cheaper/affordable	32.8	41.6	50.0	-	6.8
Closer/closer to my house/same street	28.7	15.4	-	4.3	88.6
Many choices/many products	5.2	7.0	-	-	-
Together with other purchase/other things	2.1	2.3	-	4.3	0.8
Easy access/easy to get to/easy to find	2.1	1.5	-	-	0.8
Get used to/habit	1.8	2.1	-	8.7	-
Clean/more hygienic	1.5	-	-	39.1	0.8
Guaranteed/good quality	1.2	1.0	-	13.0	-
I work here (in hypermarket)	1.1	1.3	-	-	-
Self-select/can take by myself	1.0	1.0	-	-	-
Convenience	0.8	0.4	-	8.7	-
To buy daily necessities/need to replenish stock/kitchen supplies	0.7	0.4	-	-	0.8
Quick/to save time/urgent need/can be cooked quickly	0.6	0.4	-	-	-
No other place to buy quickly/the only fresh food seller nearby	0.6	0.4	-	-	1.5
Freshly picked	0.4	0.6	-	-	-
WM is the centre of vegetables/great variety of vegetable	0.4	0.6	-	-	-
Can bargain	0.4	0.6	-	-	-
I don't really like kangkong	0.4	0.4	-	-	0.8
I work here (I am a WM seller)	0.3	0.4	-	-	-
Know the seller	0.3	0.2	-	-	0.8
Nice place/large size/air conditioning	0.3	-	25.0	4.3	-
I just like it/want it/in the mood	0.3	0.4	-	-	-
Can buy in small quantity	0.3	-	-	-	0.8
Complete/all is there	0.3	0.2	-	-	0.8
I can save/benefit me	0.1	0.2	-	-	-
Great price range	0.1	0.2	-	-	-
Because the WM is too far	0.1	0.2	-	-	-
Because I am not going to the WM	0.1	-	-	-	0.8
Holiday	0.1	0.2	-	-	-
More healthy	0.1	-	-	4.3	-
Open every day	0.1	-	-	-	0.8
WM and mall are the same	0.1	-	-	-	0.8
Safety	0.1	-	-	4.3	-
I buy one full bunch	0.1	0.2	-	-	-
Number of respondents	725	526	3	23	132

7.5 Discussion

As shown in Section 7.3.1, in terms of food shopping in general, the respondents' shopping habits demonstrate that most respondents patronised the traditional wet markets. Many respondents also patronised neighbourhood stores (*warungs*), as well as hypermarkets and supermarkets. These findings show that the majority of respondents exhibit some cross-shopping behaviour among at least two food retail stores. This confirms previous studies (Prasad and Aryasri 2011; Skallerud, Korneliussen and Olsen 2009; Carpenter and Moore 2006) that food shoppers typically exhibit cross-shopping behaviour.

Respondents identified wet markets, hypermarkets, *warungs* and supermarkets as their preferred retail store for the purchase of food products. This self-evaluation was supported by the average monthly food expenditure spent at each retail store: with about a quarter of respondents having spent IDR 501,000-1,000,000 in the wet markets; about a third spent IDR 251,000-500,000 in the hypermarkets, while supermarkets and *warungs* captured the smallest monthly food expenditure group of IDR 100,000 or less. According to Tessier (2010), small neighbourhood stores are mainly patronised by consumers for emergency purchases.

The most frequently visited retail stores were *warungs* (daily, 2-3 times a week) and traditional wet markets (weekly, daily and 2-3 times a week). This appears to be related to the close location of these two retail stores to the respondents' place of residence compared to the modern retail formats. *Warungs* are located inside housing complexes so that most respondents walked to *warungs*, while some wet markets are also within walking distance. Deloitte (2015) similarly found that the main reason for consumers' preference to shop at wet markets and *warungs* was their location. This finding also confirms the preposition of Hirsch and Hillier (2013) that geographic proximity is one determinant for consumers' decision to patronise a store. On the other hand, modern retail stores (hypermarkets, supermarkets and minimarkets) were located further away and, thus, most respondents used a motorbike, car or public transport to visit these stores on a monthly basis.

The distance of the different retail stores from the respondents' place of residence was also a factor in the respondents' decision to separate their visits to traditional wet markets and hypermarkets. However, the main reason identified by the respondents in separating their visits to wet markets and hypermarkets was because their shopping visit was based on the types of products that they needed at that time.

The finding that most respondents visited traditional wet markets and hypermarkets at separate visits to purchase different types of products was supported by the identification of the products purchased from different retail stores. The modern retail stores (hypermarkets, supermarkets) were the most important retail stores for the purchase of dry food, frozen food and non-food products such as detergent. These modern retail stores were also gaining popularity as a place to purchase fresh fruit. On the other hand, traditional wet markets were still the main place to purchase fresh vegetables, fresh chicken meat and fish.

Reardon, Henson and Berdegué (2007) suggested that while the first wave of diffusion of supermarket/hypermarkets in processed food, when modern retailers excel in packaged products due to their economies of scale, the second wave is semi-processed food such as chicken and fruit. These authors provide examples from Hong Kong, Argentina, Chile and Costa Rica, where the selling of chicken and beef meat has been taken over by modern retailers. However, this study provides an indication that for the second wave of capturing semi-processed food category in Indonesia fresh fruit will probably be captured more quickly than fresh meat. A previous study by Kaswita (2011) showed that about half of the respondents purchased fresh fruit from each of Hypermart Pekanbaru and Arengka traditional wet market. The strength of modern retail formats in fruit is supported by the supply of imported fruits. According to Minot (2015), about one third of fruit in Indonesia is sold through hypermarkets which mainly imported fruits such as oranges and apples.

As most respondents in this study purchased different food products from different stores, this was also an indication that most of them exhibited cross-shopping behaviour (multi store patronage). To gain more insight into the shopping habits for different food categories, respondents were asked about their shopping habits for three specific product categories (cooking oil, fresh chicken meat and fresh kangkong).

This study showed that consumers patronised different sets of food retail stores to purchase different category of food, and their preferences were influenced by the types/varieties and characteristics of each product category. However, small neighbourhood shops (*warungs*) were important for the purchase of all three product categories (cooking oil, chicken meat and kangkong) mostly because of the close proximity to residential areas. Most respondents would use the *warung* when they needed to top up or to supplement their regular shopping purchases.

For cooking oil, the most preferred stores were firstly traditional wet markets, followed by hypermarkets, then supermarkets. W*arungs* were the least favoured stores. Most

respondents (about three quarters) purchased packaged cooking oil mainly from hypermarkets, followed by supermarkets, minimarkets and then the wet markets. However, the other one quarter of respondents purchased bulk cooking oil from wet markets or *warungs* — a product not sold by the modern retailers. About one third of the respondents who purchased bulk cooking oil did so because the price was cheaper and they could buy in small quantities.

The price of cooking oil paid by the respondents was related to the type of cooking oil that they purchased. Half of the respondents who purchased cooking oil from the traditional wet markets and *warungs* paid between IDR 5,000-10,000 per kg because it was mostly bulk cooking oil which was cheaper, whereas those respondents who purchased packaged cooking oil from both hypermarkets and supermarkets paid a higher price of IDR 10,500 to 25,000 per litre.

In terms of the quantity purchased in each shopping trip, respondents, in general, purchased one to two and half litre of cooking oil. However, a larger number of respondents who purchased cooking oil from wet markets and *warungs* purchased a smaller quantity of 250-500 g and they purchased more frequently. Conversely, those respondents who purchased cooking oil from hypermarkets and supermarkets purchased in larger quantities of three to ten litre primarily on a monthly basis.

For fresh chicken meat, traditional food retail stores were still the most important place to purchase. The majority of respondents in this study purchased fresh chicken meat from traditional wet markets, *warungs* and roadside kiosks. Only a few respondents purchased chicken meat from hypermarkets.

The advantage of traditional retailers over modern retailers in selling chicken meat was consumers' preference to select live chicken to be slaughtered on-the-spot. Slaughtering on-the-spot was mainly available from roadside kiosks followed by traditional wet market vendors then *warungs*, while hypermarkets only sold dressed chicken which had been previously slaughtered and cleaned.

Consumers selected a store to suit the quantity of chicken they want to buy or can afford. In Indonesia, consumers have the option of purchasing whole, half chicken or selected chicken cuts. Most respondents preferred to purchase whole chicken, a small percentage purchased half-chicken and the smallest percentage purchased chicken portions from their preferred retailer. If respondents purchased whole or half chicken, they mainly purchased from wet

markets, roadside kiosks or *warungs*, and if they purchased chicken cuts they mainly purchased from wet markets, *warungs* or hypermarkets.

Dyck, Woolverton and Rangkuti (2012) suggested that modern retailers in Indonesia have the opportunity to cooperate with large scale broiler chicken producer to provide more hygienic chilled and frozen whole broilers and cuts at prices below those of traditional markets. However, they also recognised that in fact, Indonesian consumers were slower to embrace the frozen broiler meat sold through modern retail formats. A similar study in Malaysia (Chamhuri and Batt 2013a) showed that consumers prefer to purchase chicken meat from traditional markets over supermarkets because the meat is perceived to be better quality (fresh), halal and affordable.

Exploration of the open-ended responses from respondents regarding the reason to purchase fresh chicken meat from selected retailers shows that the term 'halal slaughter' was not featured among the top reasons on the list (Table 7.53 and Table 7.68) or not clearly mentioned (Table 7.55). One explanation for this finding is that most Muslim consumers assume that among the Muslim community, all food products available for sale is halal because the seller cannot risk consumer rejection if any issues arise on halal guarantee. This view is supported by previous studies on halal foods in Indonesia (Prabowo *et al.* 2014) and Pakistan (Salman and Siddiqui 2011). Another explanation is that for Muslim consumers, the main reasons to purchase meat such as guarantee of quality and freshness cover halal guarantee because halal is a concept of wholesomeness which includes freshness and quality. This concept of halal will be discussed further in relation to perceptions on health in Chapter 9 (Section 9.3.4 paragraph 2).

This study also showed that most respondents preferred to purchase live chicken to guarantee the quality and freshness. For those who purchased dressed chicken, the reasons were that it was more practical, quicker, could be cooked immediately or that live chicken was not available. As most respondents purchased whole chicken, the quantity for a purchase varied according to the size of the chicken, which was mostly between 1.05-1.50 kg or 0.55-1.00 kg.

With regards to the frequency of purchase, most respondents purchased chicken once a week or 2-3 times a week from wet markets. However, those who mostly purchased chicken from *warungs* purchased less often. This was probably related to the relatively higher price of chicken, so those consumers from lower income group who mainly purchase small quantities of chicken from warungs could not afford to buy chicken frequently.

In terms of price, respondents, in general, paid IDR 20,250-25,000 per kg of chicken. Those who purchased from wet markets and *warungs* paid a lower price of IDR 15,250-20,000 per kg, while those who purchased chicken from hypermarkets paid a higher price of IDR 25,250-30,000 or IDR 30,250-35,000 per kg. This is in line with previous studies (Kholis, Ratnawati and Yuwalliatin 2011) which suggest that the price of fresh food sold in modern retailers is higher than that in traditional retail stores.

Similar to fresh chicken meat, traditional food retail stores were still the most important place to purchase fresh kangkong. Similar to the reasons for purchasing chicken meat, most respondents still preferred to buy fresh kangkong from traditional wet markets because it was fresher, cheaper and the wet market was closer. This finding was similar to a study in India (Finzer *et al.* 2013), showing that the vast majority of consumers reported purchasing fresh vegetables from traditional retailers, while only 5 percent purchased fresh produce from modern retailers. For the few respondents in this study who purchased kangkong from hypermarkets, they did so because of the cleanliness of the modern retailer and the freshness of vegetables.

The majority of respondents purchased kangkong from wet markets some from *warungs* (2-3 times a week, weekly and daily. Most respondents purchased 0.5-1 bunch of kangkong or 1.5-2 bunches of kangkong on each shopping trip. There are two varieties of kangkong available and for both, taste and availability in the market were the main reasons for the purchase. Most respondents preferred to purchase ground kangkong over water kangkong because it was perceived to be cleaner.

This study showed that traditional retailers still offered a cheaper price for kangkong. Most respondents paid IDR 1,750-2,000 and IDR 1,250-1,500 per bunch of kangkong when they purchased from wet markets and *warungs*, whereas when buying from hypermarkets, respondents paid from IDR 2,750-3,000 and IDR 3,250-3,500 per bunch. Similarly, a previous study in Jakarta (Natawidjaja, Reardon and Shetti 2007) found that supermarkets provided higher quality of tomatoes but at a much higher price compared to the traditional wet markets.

7.6 Conclusion

This chapter has discussed the findings of this study in light of the most recently available statistics and published findings from previous studies, finding that many characteristics of the survey respondents align with these sources. The fact that the majority of respondents in

this study (99%) were female is an indication of the significant role that females continue to play as the main food shoppers in their households in Indonesia. In terms of age, more than half of the respondents (55%) in this study were from the 18-34 age group. This is partly related to the fact that the Indonesian population is very young, with over 60% under the age of 34 years old. In spite of their relative youth, the majority of the respondents were married (67%). Approximately 90% of the respondents in this study were Muslim, which was representative of both national and provincial statistics and consistent with the fact that Indonesia is the largest Muslim majority country in the world. In terms of family size, almost 70% of respondents in this study had a family size between 3-5 people, which is consistent with the average of 4 people in Riau Province.

Previous studies have highlighted the influence of consumers' growing economic affluence with regard to food store choice, as well as in relation to the ownership of vehicles, credit cards, white goods, and electronics. In this study, the ownership rate for microwave ovens (30%) and credit cards (16%) aligned with the results from previous research.

Other economic characteristics of participants in this study (refrigerator, motorbike and car ownership), however, were higher than the statistics would predict. In terms of refrigerator ownership, most respondents in this study (73%) owned a refrigerator, which was higher than previous findings on a national level (30%) but similar to other findings in Javanese urban areas (80% and 88%). In terms of motorbike ownership, the majority of respondents in this study (85%) owned a motorbike, which was higher than some previous findings (which suggested two thirds), but was supported by other studies in urban areas (87%). In terms of car ownership, some 30% of respondents in this study owned a car, which was much higher than national statistics (4 and 7%). The higher percentages were partly due to the survey location, which was in the centre of an urban area, and the fact that half of all respondents were surveyed from hypermarkets. Most previous studies have shown that consumers who shop at modern retailers tend to be more affluent.

For similar reasons, the majority of respondents in this study (77%) had a higher level of education (senior high school, diploma and university degree) compared to the broader demographics of Riau Province (35%). In terms of occupation, the percentage of respondents who were self-employed (30%) was slightly higher than the national statistics (20%), while for spouses (husbands), about 30% worked as an employee, which was similar to the national statistics.

In terms of ethnicity, most respondents in this study were Minangkabau (42%), followed by Malay (21%) and Javanese (18%). This ethnic composition was close to those recorded in the Riau Province statistics (in which Malay, Javanese, and Minangkabau ethnicities dominate). The higher percentage of respondents with Minangkabau ethnicity was probably due to the characteristics of the Minangkabau people, who are well-known as informal traders, leading to a greater likelihood that they will be sampled in wet markets or hypermarkets. As traders, this may also explain the higher percentage of respondents who were self-employed in this study.

In terms of monthly household income, the majority of respondents in this study (60%) had a monthly family income between IDR 1 and 4.5 million, which was higher than Arsil (2013) findings, but close to the income range of IDR 2 to 5 million reported by (Wahida *et al.* 2013). This study asked the respondents about the range of their monthly incomes instead of the exact amount of money, in the knowledge that income is a sensitive matter. Therefore, the average monthly household income in this study was not directly recorded.

For similar reasons, this study asked the respondents to report the range, rather than the exact figures of their monthly food expenditure that was spent on food in general, convenience food, ready-to-eat food, and eating out. In terms of monthly food expenditure, approximately half of the respondents in this study (48%) spent more than IDR 1,500,000 per month on food. The respondents' monthly food expenditure showed a tendency to increase with an increase in monthly household income and household size.

Around half of the respondents in this study spent very little (less than IDR 100,000 per month) on convenience food (such as frozen food or tinned food) and ready-to-eat food. However, respondents spent more on food away from home, with half of respondents spending between IDR 101,000 to 500,000 per month. Statistics and previous findings on consumer spending on convenient, ready-to-eat food and food away from home in Indonesia were not available, suggesting that more research is needed in this area.

This chapter has shown that most of the key socio-demographic characteristics of the respondents in this study are consistent with previous findings. Some economic characteristics of the participants in this study were higher than the national statistics, most likely due to the gap between urban and rural areas in Indonesia. This study only drew samples from the urban city centre because hypermarkets are only located in the city centre. This ensured that respondents had the option to choose or cross-shop between modern and traditional retailers for processed, semi-processed and fresh food. The equal split of samples

between traditional wet markets and hypermarkets in Pekanbaru City was designed to cover both more and less affluent urban consumers.

In terms of cross-shopping habits, this study confirms existing literature that the majority of consumers exhibit cross-shopping behaviour in food shopping, as they partially adopt modern retailers (hypermarkets and supermarkets) mainly to purchase dry packaged food while still source most of their fresh food from traditional wet markets. This finding resonates with the theory of selective adoption (Hino 2010; Goldman, Ramaswami and Krider 2002), that modern retailers first dominate the packaged food category and consumers start to purchase their packaged food from modern retailers while still purchasing fresh food form traditional markets.

This study adds to the literature of cross-shopping that despite the close proximity of modern retailers (hypermarkets and supermarkets) to traditional wet markets in Pekanbaru City, the majority of respondents shop at modern and traditional retailers at separate visits directed by the product category they need to purchase. This pattern is partly related to consumers' habit to purchase packaged food on a monthly basis while purchasing fresh food more frequently such as on a weekly basis.

This study also provides more insights on cross-shopping behaviour in developing country as it is among the first study which compares consumers' shopping patterns among three food categories which have been selected to represent three different stages of development of modern retailers in developing countries (processed, semi-processed and fresh food). Hypermarkets and supermarkets were important retailers for cooking oil especially brand packaged cooking oil due to the discounted/special price, while wet markets were important for the purchase of bulk cheaper cooking oil. For the purchase of chicken meat, traditional retailers (roadside kiosks, wet markets and warungs) were still dominant, and this was partly related to the closer location of traditional retailers, consumers' preference for slaughtering on-the-spot and the higher price of meat sold in modern retailers. For the few respondents who purchased fresh chicken meat from hypermarkets, they did so because the shop was clean and the chicken was fresh due to the refrigeration. For the purchase of fresh vegetables (kangkong), wet markets and warungs were still dominant because they were perceived to provide fresher vegetable at cheaper price.

This, therefore, shows that variety of attributes from different retail stores offers a complementary function for consumers. Despite the strength of hypermarkets/supermarkets in providing branded packaged cooking oil at discounted price, consumers who could not

afford to buy will patronise wet markets and *warungs* to buy bulk cooking oil in small quantities. For fresh chicken meat, traditional retailers were still the main choice for purchasing freshly slaughtered chicken, however some consumers may view hypermarkets as a more hygienic place with refrigerators to buy chicken including packages of similar chicken cuts such as drumsticks, and this opens an opportunity for the modern retailer. For fresh produce, more consumers purchased fruit from hypermarkets compared to vegetables, however, some consumers may start purchasing vegetables from hypermarkets when they visit the shopping malls to purchase packaged food and fruits.

This study also reveals that the determinants to cross-shop is influenced by the characteristics of each product category, therefore, the store choice set (range of stores patronised by consumers to purchase certain food category) was found to be different for each product in this study. Another important finding is that this study provides insights into Muslim consumers preferences in purchasing food, such as that consumers paid more attention on halal assurance for meat but not so much for non-animal foods such as vegetable oil and fresh produce, and that for Muslim consumers, halal assurance was not merely a religious duty but covers assurance of health and food safety.

The next two chapters will discuss the factors/determinants underlying the respondents' decision to purchase food.

CHAPTER 8

DETERMINANTS OF CROSS-SHOPPING BEHAVIOUR BETWEEN TRADITIONAL WET MARKETS AND MODERN FOOD RETAIL STORES FOR FOOD PRODUCTS IN GENERAL

8.1 Introduction

This chapter discusses the determinants of cross-shopping behaviour for modern and traditional food retail stores, specifically for food products in general, to address the second research objective.

For this study, food was defined as all food consumed at home for breakfast, lunch or dinner, snack food and ready-to-eat food, raw cooking ingredients and infant formula. Based on the average food expenses (IDR/month) for each food retailer patronised by the household, the first most important food retailer and the second most important food retailer were identified.

Section 8.2 discusses the respondents' store choice. Respondents were asked in an open-ended question about their reason(s) for purchasing food products from their most preferred retailer (Section 8.2.1) and second most preferred retailer (Section 8.2.2). To gain information on reasons for selecting a specific retail store, the respondents' reasons from open-ended questions were then grouped by the respondents' most preferred retail store: wet market (WM), temporary market (TM), minimarket (MM), supermarket (SM), hypermarket (HM), *warung* (W) or independent grocer (IG) (Section 8.2.3).

In a subsequent question, respondents were then asked to rank a number of store attributes developed from the literature and the focus group interviews. A one-way ANOVA was then conducted to identify any significant differences among the 40 store attributes (Section 8.3). Using the same 40 store attributes, the the latent factors underlying the consumers' decision to shop for food in general from different food retailers (cross-shopping) were then analysed using principal component analysis (Section 8.4).

In a similar manner, the chapter then reported on the results of the cluster analysis for the store-related attributes for food (Section 8.5). One-way ANOVA was conducted on the summated factors from above based on the three clusters identified (Section 8.5.1). To further evaluate the characteristics of the three clusters identified, cross-tabulations were conducted between the clusters and the type of products purchased from wet markets (Section 8.5.2) and hypermarkets (Section 8.5.3), between the clusters and food shopping habits, food expenditure (Section 8.5.4) and socio demographic criterion (Section 8.5.5).

Finally, the the determinants which are considered to be most influential in the consumers' decision to select a retail store for the purchase of food products were summarised in Section 8.6. The chapter then concludes with a summary and conclusion (Section 8.7).

8.2 Store choice

8.2.1 Reason for choosing the first retailer for food

Based on open-ended responses (Table 8.1), the most frequently cited reason for consumers for choosing the first or most important retailer for purchasing food was because it was cheaper or because the price is more affordable (57%). The other reasons cited were convenience-related: closer to my home (37%), complete range (18%), and more choices (16%). Quality criterion came after that which included freshness (15%).

Table 8.1: Reason to choose the first retailer for food (all retailers)

Reasons	1	2	3	4	5	Total	%
Cheaper/affordable	295	133	32	1	-	462	57.18
Closer/closer to my house	184	81	20	7	2	295	36.51
Complete/all is there	57	63	22	3	-	145	17.95
Many choices/many products	36	73	14	4	2	129	15.96
Freshness/fresh/fresher	31	49	35	4	-	119	14.72
Can bargain	13	40	21	5	1	80	9.90
Convenience	31	22	7	3	1	64	7.92
Promotions/special offers	17	35	16	2	-	60	7.43
Refreshing/relaxing	13	17	7	3	-	40	4.95
I work here	19	9	2	1	-	31	3.84
Get used to/habit	14	9	5	2	-	30	3.71
Easy access/easy to get to	8	11	5	2	-	26	3.22
To buy daily necessities	14	4	7	-	-	25	3.09
Lots of stock	16	5	3	-	-	24	2.97
Clean/more hygienic	12	4	5	1	-	22	2.72
Know the seller	-	9	9	1	2	21	2.59
Guaranteed/good quality	5	5	5	1	-	16	1.98
Good price	3	10	2	-	-	15	1.86
There is a price label	6	5	4	-	-	15	1.86
Practical	3	10	-	-	-	13	1.61
Self-select	-	8	3	1	-	12	1.49
Together with other purchase	7	2	1	-	-	10	1.24
For resale	9	-	-	-	-	9	1.11
Can save/benefit me	2	3	2	-	-	7	0.87
To play/eat out with children	-	3	1	1	-	5	0.62
Great price range	1	2	1	1	-	5	0.62
To save time/quick	-	2	1	2	-	5	0.62
Many people shop there/meet friends	1	1	3	-	-	5	0.62
Can buy in small quantity	-	3	1	-	-	4	0.50

(where 1 is "the first reason mentioned by respondent" and 5 is "the fifth reason mentioned by respondent"

Table 8.1: Reason to choose the first retailer for food (all retailers) cont.

Reasons	1	2	3	4	5	Total	%
To purchase dry foods/durable/clothing	3	1	-	-	-	4	0.50
Nice place	2	-	1	-	-	3	0.37
Market and mall are the same	-	3	-	-	-	3	0.37
I just like it/want it/in the mood	3	-	-	-	-	3	0.37
Window shopping/look around	1	-	2	-	-	3	0.37
To purchase children's needs	2	-	-	-	-	2	0.25
Safety	-	-	1	1	-	2	0.25
Air conditioning	-	-	-	2	-	2	0.25
Live/free-range chicken	-	1	-	-	1	2	0.25
Total	**808**	**625**	**238**	**49**	**9**		

(where 1 is "the first reason mentioned by respondent" and 5 is "the fifth reason mentioned by respondent")

Other price-related criterion followed including: the ability to bargain (10%) and promotions/special offers (7%). Convenience itself, as a single criterion, was cited by 8% of the respondents.

8.2.2 Reason for choosing the second retailer for food products in general

The most frequently cited reason for choosing the second most preferred retailer was proximity or close location to my home (33%). However, price criterion (cheaper/affordable) were still influential (23%) in choosing the second most preferred retailer (Table 8.2). From the frequency analysis, the majority of respondents (687) provided one or more reasons for choosing a second retailer. This was indicative of some cross-shopping behaviour where the respondents patronised at least two food retailers. Moreover, from the list of reasons given, the second most preferred retailer often provided a complementary function for the main retailer. If a respondent mainly visited the wet market, they would use the second retailer when they could not go to the wet market, such as when the wet market was already closed (such as in the afternoons), or when they were looking for something which was not available in the wet market.

Table 8.2: Reason to choose the second retailer for food (all retailers)

Reasons	1	2	3	4	5	Total	%
Closer/closer to my house	178	41	3	2	1	225	32.75
Cheaper/affordable	110	41	4	-	-	155	22.56
Refreshing/relaxing/different environment	55	29	7	2	-	93	13.54
Promotions/special offers	39	27	8	-	-	74	10.77
Freshness/fresh/fresher/	40	21	3	2	-	66	9.61
Convenience	40	20	3	1	-	64	9.32
Many choices/many products	16	29	3	-	-	48	6.99
Complete/all is there	19	18	5	2	-	44	6.40
Lots of stock	31	8	3	-	-	42	6.11
Buy daily necessities	15	10	1	-	-	26	3.79
Good price	10	11	2	-	-	23	3.35
Clean/more hygienic	10	9	2	-	-	21	3.06
Can bargain	10	8	1	-	-	19	2.77
There is price label	9	6	2	1	-	18	2.62
Easy access	8	4	1	-	-	13	1.89
Together with other purchase	10	2	-	-	-	12	1.75
To purchase dry/durable goods	9	1	1	-	-	11	1.60
Self-select	4	6	-	-	-	10	1.46
Window shopping/look around	6	4	-	-	-	10	1.46
To play/eat out with children	4	6	-	-	-	10	1.46
Practical	4	4	1	-	-	9	1.31
I just want it/like it/in the mood	8	-	1	-	-	9	1.31
Guaranteed/good quality	3	3	2	-	-	8	1.16
Get used to/habit	5	1	1	-	-	7	1.02
Know the seller/friendly seller	2	4	1	-	-	7	1.02
To purchase children's needs	4	1	-	-	-	5	0.73
Great price range	3	2	-	-	-	5	0.73
There is a membership card	3	1	1	-	-	5	0.73
Quick	4	-	-	-	-	4	0.58
Together with purchasing dry food stock	3	1	-	-	-	4	0.58
Nice place	2	2	-	-	-	4	0.58
Can buy in small quantity	-	4	-	-	-	4	0.58
Many people shop there/meet friends	2	-	1	1	-	4	0.58

(where 1 is "the first reason mentioned by respondent" and 5 is "the fifth reason mentioned by respondent")

Table 8.2: Reason to choose the second retailer for food (all retailers) cont.

Reasons	1	2	3	4	5	Total	%
Looking for something which is not available in the wet market	3	-	-	-	-	3	0.44
According to needs	-	2	1	-	-	3	0.44
The only fresh food seller nearby/the only one available	1	2	-	-	-	3	0.44
If I am lazy to go to the wet market/don't go to wet market	2	1	-	-	-	3	0.44
Can save/benefit me	2	-	-	-	-	2	0.29
Can choose live chicken	1	1	-	-	-	2	0.29
Wait until my supply is finished	2	-	-	-	-	2	0.29
Just to buy fruit	1	1	-	-	-	2	0.29
Market and mall are the same	1	1	-	-	-	2	0.29
Expiration date is clear	-	1	1	-	-	2	0.29
I can pay later/pay in credit	1	-	1	-	-	2	0.29
I work here/shopping after work	1	1	-	-	-	2	0.29
Easy/easy to find/availability	1	1	-	-	-	2	0.29
Because the wet market closed quickly	2	-	-	-	-	2	0.29
Together with going to the wet market	1	-	-	-	-	1	0.15
For resale	1	-	-	-	-	1	0.15
Looking for packaged cooking oil	1	-	-	-	-	1	0.15
It has a large parking area	-	-	1	-	-	1	0.15
Safety	-	-	1	-	-	1	0.15
Open every day	-	-	1	-	-	1	0.15
Home delivery	-	-	1	-	-	1	0.15
Total	**687**	**335**	**64**	**11**	**1**		

(where 1 is "the first reason mentioned by respondent" and 5 is "the fifth reason mentioned by respondent")

In analysing the respondents' cross-shopping behaviour, respondents often split their purchases between dry goods (from modern retailers/hypermarket) and perishables (from traditional wet markets). Among the reasons for choosing the second retailer, many respondents indicated that they preferred the second retailer (presumably hypermarkets) to purchase dry/durable goods (snack foods, soap, cosmetics, cooking oil). Other reasons indicated more clearly that the second most preferred retailer was a hypermarket such as looking for packaged cooking oil, a large parking area or the presence of a price label. With regards to perishables, respondents indicated that they visited wet markets to purchase fresh food such as live chicken.

8.2.3 Reason for choosing a certain retailer as the most important retailer for food in general

To gain a greater understanding of the reasons for purchase, the open-ended responses were then assessed by the respondents' most preferred retail store: wet market (WM), temporary market (TM), minimarket (MM), supermarket (SM), hypermarket (HM), *warung* (W) or independent grocer (IG) (Table 8.3). Other retailers (hawker, roadside kiosk and farmer) were excluded from comparison because no respondent identified these retailers as their main food retailer.

Table 8.3: Comparison of the reasons to choose the first food retailer if the first retailer was wet market, temporary market, minimarket, supermarket, hypermarket, *warung* and independent grocer

Reasons	Percentage responses (%)						
	WM	TM	MM	SM	HM	W	IG
Cheaper/ affordable	**73.25**	**85.71**	**42.42**	**21.57**	**20.69**	**16.39**	**75.00**
Closer/closer to my house	**37.92**	**28.57**	**24.24**	13.73	15.52	**95.08**	**17.86**
Fresh/fresher/ freshness	**22.16**	**14.29**	-	-	-	**8.20**	-
Complete/all is there	**18.56**	7.14	**15.15**	**27.45**	**19.83**	**9.84**	7.14
Many choices/many products	**16.97**	**35.71**	**27.27**	15.69	12.07	6.56	**28.57**
Can bargain	**15.17**	7.14	3.03	-	-	-	3.57
I work here/shopping after work	5.79	-	3.03	-	2.59	-	-
Get used to/habit	4.19	7.14	6.06	-	-	6.56	-
Know the seller	3.39	-	-	-	-	4.92	-
Buy daily necessities	2.99	-	-	3.92	4.31	3.28	-
Convenience	2.59	7.14	**15.15**	**21.57**	**28.45**	1.64	-
Easy access to get to/open every day	1.80	-	9.09	3.92	4.31	6.56	3.57
Self-select	1.60	7.14	-	-	1.72	-	-
Promotions/ special offers	1.20	-	**42.42**	**21.57**	**31.03**	**10.71**	-
Lots of stock	1.20	7.14	3.03	9.80	7.76	7.14	-
Good price	1.00	-	3.03	5.88	-	8.20	-
Together with other purchase	1.00	-	-	-	2.59	-	3.57
Practical/to save time/quick	1.00	7.14	-	3.92	3.45	**9.84**	-
Guaranteed/good quality	0.80	-	9.09	5.88	4.31	-	-
Refreshing/ relaxing/ look around/window shopping	0.60	**14.29**	-	11.76	**26.72**	-	-
Many people shop there/shopping place for housewives	0.40	-	-	-	-	-	-
Lots of stock	1.20	7.14	3.03	9.80	7.76	7.14	-
For resale	0.40	-	-	-	1.72	**21.43**	-
I just want it/like it/in the mood	-	-	-	-	1.72	-	-

(WM = traditional wet market, TM = temporary half-day market, MM = minimarket, SM = supermarket, HM = hypermarket, *warung* = small neighbourhood stores, IG = independent grocer/Chinese shop, RK = roadside kiosk/stall)

Table 8.3: Comparison of the reasons to choose the first food retailer if the first retailer was wet market, temporary market, minimarket, supermarket, hypermarket, *warung* and independent grocer cont.

Reasons	Percentage responses (%)						
	WM	**TM**	**MM**	**SM**	**HM**	**W**	**IG**
Clean	-	-	6.06	5.88	**13.79**	-	-
Can save/benefit me	-	**14.29**	3.03	-	-	-	-
There is price label	-	-	**18.18**	**13.73**	-	-	-
Durable/snack foods/dry food stock/clothing	-	-	-	-	2.59	-	3.57
Can buy in small quantity	-	-	-	-	-	4.92	-
Nice place	-	-	-	-	3.45	-	-
Bring my children to play	-	7.14	-	-	2.59	-	-
Market and the mall are the same	-	-	3.03	-	-	3.28	-
To complete the children's needs	-	-	3.03	3.92	-	-	-
Total	501	14	33	51	116	61	28

(WM = traditional wet market, TM = temporary half-day market, MM = minimarket, SM = supermarket, HM = hypermarket, *warung* = small neighbourhood stores, IG = independent grocer/Chinese shop, RK = roadside kiosk/stall)

Not surprisingly, traditional wet market was the main food retailer selected by the majority of respondents. For respondents who spent most of their food budget in the traditional wet market, the most frequently cited reasons were because it was cheaper (73%), closer to their home (38%), the products were fresher (22%), a more complete range of products (19%), more choices (17%) and the respondents could bargain (15%).

For those who mainly patronised temporary/weekly neighbourhood markets, the most frequently cited reasons were cheaper (86%), more choices (36%), closer to their home (29%) and fresher products (14%). These reasons show the strength of the traditional markets in providing a greater variety of fresher and cheaper produce.

Traditional neighbourhood stores *(warung)* were selected as the first/most preferred retailer because they were closer to the respondents' place of residence (95%) and, thus, able to

satisfy urgent needs or top-up purchases. Other reasons were for resale (21%), cheaper (16%), promotions/special offer (11%) (probably in purchasing dry food in small packages for resale), complete range (10%), practical (10%) and fresh produce (8%), indicating that *warungs* were also patronised for fresh produce.

Other traditional retailers — the independent grocers — were chosen because they were cheaper (75%), had more choices (29%) and were close to the respondents' place of residence (18%). As independent grocers were not rated for freshness, this implies that respondents mostly patronised this type of retailer for dry foods.

For the three modern food retailers (minimarket, supermarket and hypermarket), freshness was not mentioned among the reasons to patronise the store, indicating that most respondents patronised modern retailers primarily to purchase dry packaged foods. The main reasons to patronise the modern retailers were: (1) promotions/special offers (42% for minimarket, 22% for supermarket and 31% for hypermarket); (2) cheaper/more affordable (42% for minimarket, 22% for supermarket and 21% for hypermarket); (3) convenience (15% for minimarket, 22% for supermarket and 28% for hypermarket); (4) complete range (15% for minimarket, 27% for supermarket and 20% for hypermarket); and (5) more choices/products (27% for minimarket, 16% for supermarket and 12% for hypermarket).

Specific reasons were also given by respondents in patronising each of the modern retail formats. For minimarkets, the specific reason was close location because minimarkets were usually established in close proximity to residential complexes. Supermarkets and hypermarkets were usually accommodated within a large shopping mall, so for both formats, more specific reasons were refreshing/relaxing/looking around/window shopping (27% for hypermarket and 12% for supermarket). Price labels were mentioned among the reasons to patronise both minimarkets (18%) and supermarkets (14%) because respondents compared them with independent grocers, which commonly had no price label, as a place to purchase dry/packaged foods.

8.3 The importance of store attributes

To complement the answers from open-ended questions, the survey questionnaire included a list of 40 store attributes drawn from the literature and the results of the focus group interviews. To investigate if there was a significant difference among these store attributes, the means were compared using One-way ANOVA and Tukey's HSD (Table 8.4).

Table 8.4: The importance of store attributes based on Likert scale

Store attributes	Mean	SD
Honesty/goodwill of the seller	5.919[a]	.287
Food safety	5.899[a]	.360
Service	5.859[a]	.506
Value for money/suitable price	5.845[a]	.492
Can self-select food with my own hand	5.834[a]	.563
Cleanliness of the store	5.808[a]	.569
Friendliness of seller	5.797[a]	.626
Quick payment/check out	5.790[a]	.714
Shopping convenience	5.768[a]	.668
Free to browse without any obligation to buy	5.744[a]	.745
Product lay-out in store	5.728[a]	.763
Close location/easy access	5.714[a]	.736
Bargain	5.642[b]	.890
Attractiveness of the store	5.617[c]	.800
Easy parking/parking facility	5.603[d]	1.020
Clear price tag	5.542[e]	1.050
Able to buy in small quantity	5.529[e]	1.076
Prayer room facility	5.512[f]	1.209
Sample of product availability	5.512[f]	1.069
Wide range of price level available	5.477[g]	1.105
Comfortable/air conditioned	5.464[g]	1.156
Product variety/product choices	5.357[h]	1.199
One stop shopping/can buy other thing	5.332[h]	1.259
Relaxing/looking around with family/friends	5.332[h]	1.259
Price discount	5.193[i]	1.547
Competitive price	5.145[j]	1.462
Can support small traders	5.121[k]	1.305
Opening hour	5.108[k]	1.469
Eating places/restaurants	4.989[k]	1.501
Suits my family habit	4.971[l]	1.547
Brand variety/brand choices	4.891[m]	1.547
Refrigerator/cold room facility	4.810[m]	1.673
Return/refund policy	4.613[n]	1.777
Information from advertising/catalogue	4.167[o]	1.813
Meet neighbours/friends	3.983[p]	1.712
Know the seller personally	3.827[p]	1.976
Home delivery	3.783[q]	1.919
Shopping point	3.497[r]	2.047
Credit facility	2.406[s]	1.814
Special event	2.234[s]	1.699

(where 1 is “not at all important” and 6 is “very important” and those items with the same superscript are not significantly different at p = 0.05)

Among the 40 store attributes, 12 attributes were considered the most important by respondents: honesty of the seller, food safety, service, value for money, the ability to self-select, cleanliness of the store, friendliness of the seller, quick payment/check out, shopping convenience, free to browse, product lay-out in store and close location.

Another 17 attributes were ranked as important with a mean score greater than 5 such as: the ability to bargain, attractiveness of the store and easy parking, followed by a clear price tag and the ability to buy in small quantities, a prayer room and the availability of food product samples, a wide range of price levels and an air-conditioned store.

Those variables that were considered the least important included: suits my family habits, brand variety, refrigerated facility, return policy, information from advertising, to meet neighbours and friends, know the seller personally, home delivery, shopping points, credit facility and special events.

As it is unlikely that respondents will utilise all 40 store attributes when purchasing food product from a retail store because it is too time consuming. Hence, exploratory factor analysis was undertaken to identify the underlying latent variables (factors).

8.4 Factor analysis of store-attributes for food in general

Following Hair *et al.* (2010), in conducting the factor analysis, the numbers of factors were determined by setting the minimum eigenvalue at 1.0. The factor loading cut-off value was set at 0.40 (Field 2009) and items with cross-loadings greater than 0.4 were dropped (Hair *et al.* 2010). The overall KMO measure and Bartlett's test of sphericity were used to examine the suitability of the data for factor analysis.

From the final factor solution, five constructs emerged that collectively accounted for 61% of the total variance (Table 8.5). The KMO measure of sample adequacy was 0.756. According to (Field 2009), a figure within the range of 0.7 to 0.8 is considered good. Bartlett's test of sphericity showed the value of 3028.716 which was significant ($p < 0.05$). The reliability of each construct was tested using Cronbach's alpha. According to Nunnally and Bernstein (1994, cited in Jayasankaraprasad and Kathyayani 2014) and Brace, Kemp and Snelgar (2012), a construct was considered to be reliable when the Cronbach's alpha exceeded 0.70.

Table 8.5: Factors influencing respondents' decisions to purchase food in general

Reduced set of variables for food	Varimax-rotated loadings[a]				
	Factor				
	1	2	3	4	5
Brand variety	.780				
Product variety	.743				
Special price (discount)	.722				
Shopping points	.633				
Shopping convenience	.496				
Quick payment (check out)		.750			
Product lay-out in store		.658			
Easy parking (parking facility)		.639			
Service		.580			
Can self-select		.521			
Know the seller personally			.832		
Meet neighbours/friends			.806		
Support small traders			.716		
Honesty of the seller				.894	
Food safety				.886	
Competitive price					.870
Eigen value	3.809	2.098	1.585	1.171	1.051
Percent variance	15.74	14.38	12.37	11.26	6.97
Cumulative variance	15.74	30.12	42.49	53.75	60.72
Cronbach's alpha	0.706	0.686	0.711	0.849	-
Factor mean	4.948	5.763	4.299	5.909	5.17

[a] Factor loadings less than 0.40 have not been printed and variables have been sorted by loadings on each factor

As can be seen in Table 8.5, Factor 1, which explained 16% of the variance, was comprised of five items. The variables variety, discount, shopping points and convenience were mostly associated with the strength of modern retailers. Hence it was labelled as 'modern retailer characteristics'. With a Cronbach's alpha of 0.71, this factor was considered reliable. However, with a factor mean of 4.95, it was one of the lesser important variables in the consumers decision to purchase.

Factor 2, which explained a further 14% of the variance, was also comprised of five items. This construct captured the respondents' need for quick and efficient shopping. Upon arrival at or near to the retail store, respondents could readily find a parking spot. Once inside the store, they were able to quickly locate the food they wanted to purchase, to self-select and choose the food they wanted to purchase, and having selected the food, there were few delays in facilitating payment at the check-out. This factor was labelled as 'efficient shopping'. For an exploratory study, a Cronbach's alpha of 0.69 is considered reliable. With a factor mean of 5.76, this was one of the more important variables in the consumers' decision to purchase.

Factor 3 was comprised of three items and explained 12% of the variance. This factor captured the respondents' desire to maintain a personal relationship with the retailer, the opportunity to meet neighbours or friends while shopping, and the need to support small scale retailers. This construct was labelled as 'social relationships'. With a Cronbach's alpha of 0.71 the construct was considered reliable, but with a factor mean of 4.30 it was the least important factor in the consumers' choice of retail store.

Factor 4 consisted of two items which explained 11% of the variance. This factor captured consumers' concerns about the quality and safety of the food they intended to purchase and the honesty of the retailer. It was accordingly labelled as 'food quality and safety'. This factor was not only very reliable (Cronbach's alpha of 0.85), but with a factor mean of 5.91, was found to be the most important construct in the consumers' decision to purchase food from a retail store.

Factor 5 consisted of only one item. This factor demonstrated the importance of a competitive price in the consumers' choice of retail store. With a factor mean of 5.17, this factor was of only moderate importance, indicating that food quality and safety, and quick and efficient shopping were more important to the consumer.

8.5 Cluster identification based on store attribute ratings

Using SPSS, cluster analysis was then utilised as a tool to group (segment) respondents based on the similarity of responses to store-related attributes. A two-stage cluster analysis was conducted to combine the benefits of both hierarchical and non-hierarchical methods (Angell *et al.* 2013; Bourlakis, Ness and Priporas 2006). A well-established approach was utilized to select an appropriate scope of clusters (Hair *et al.* 2010), comparing a range of different solutions. Hair *et al.* (1998) (cited in Bourlakis, Ness and Priporas 2006) suggested a procedure based on an investigation of distance information from the agglomeration process. The appropriate number of clusters emerges when there is a large increase in the distance as an indication that further agglomeration will result in a decrease in homogeneity. From the hierarchical cluster analysis, it was apparent that a three-cluster solution was appropriate.

The selection of a three-cluster solution was supported by an interpretation of the dendogram and agglomeration schedules of the hierarchical cluster process. The clarity and practicality of the shopper types derived was assessed and a solution proposed which allocated the 824 respondents into three clusters: Cluster 1 (27%) (N=225); Cluster 2 (17%) (N=139); and Cluster 3 (47%) (N=385).

Differences between the mean scores on store attributes for each cluster were identified using ANOVA, where those items in the same line with the same superscript are not significantly different at $p<0.05$ (Table 8.6).

Table 8.6: Mean scores of store attribute ratings for each cluster[a]

Shopping criterion	Cluster		
	1	2	3
Competitive price	5.02[b]	4.61[a]	5.47[c]
Shopping points or membership	3.60[b]	1.45[a]	4.09[c]
Special price or discount	5.36[b]	2.99[a]	5.86[c]
Bargain	5.43[a]	5.44[a]	5.89[b]
Shopping convenience	5.80[b]	5.21[a]	5.98[c]
Can self-select food with my own hand	5.76[a]	5.75[a]	5.97[b]
Close location/easy access	5.44[a]	5.60[a]	5.95[b]
Opening hour	4.58[a]	4.53[a]	5.72[b]
Easy parking/parking facility	5.43[b]	5.04[a]	5.94[c]
Quick payment/check out	5.63[a]	5.68[a]	5.97[b]
Product lay-out in store	5.69[b]	5.25[a]	5.97[c]
Service	5.80[a]	5.78[a]	5.97[b]
Credit facility	1.82[a]	1.81[a]	2.96[b]
Able to buy in small quantity	5.41[a]	5.43[a]	5.69[b]
Product variety/product choices	5.48[b]	4.08[a]	5.77[c]
Brand variety/brand choices	5.33[b]	3.14[a]	5.21[b]
Friendliness of seller	5.75[b]	5.61[a]	5.94[c]
Know the seller personally	2.00[a]	3.78[b]	4.97[c]
Meet neighbours/friends	2.68[a]	3.42[b]	4.82[c]
Can support small trader	4.32[a]	4.71[b]	5.76[c]
Relaxing/looking around with family/friends	4.94[b]	4.53[a]	5.87[c]
Can buy other thing/one stop shopping	5.02[b]	4.37[a]	4.96[b]
Eating places/restaurants	4.73[b]	3.64[a]	5.65[c]
Prayer room facility	5.17[a]	5.37[a]	5.77[b]
Special event	1.85[b]	1.42[a]	2.70[c]
Cleanliness of the store	5.72[b]	5.59[a]	5.99[c]
Attractiveness of the store	5.47[b]	4.96[a]	5.96[c]
Comfortable/air conditioned	5.40[b]	4.32[a]	5.94[c]
Home delivery	3.20[a]	2.93[a]	4.56[b]
Wide range of price level available	5.40[b]	4.88[a]	5.81[c]
Clear price tag	5.68[b]	4.55[a]	5.84[b]

Table 8.6: Mean scores of store attribute ratings for each cluster[a] cont.

Shopping criterion	Cluster		
	1	2	3
Value for money/suitable price	5.77 [a]	5.75 [a]	5.97 [b]
Return/refund policy	3.95 [a]	4.08 [a]	5.19 [b]
Information from advertising/catalogue	4.27 [b]	2.49 [a]	4.65 [c]
Refrigerator/cold room facility	5.01 [b]	3.18 [a]	5.30 [b]
Sample of product availability	5.60 [b]	4.86 [a]	5.79 [b]
Free to browse without any obligation to buy	5.69 [b]	5.45 [a]	5.95 [c]
Safety	5.88 [a]	5.81 [a]	5.99 [b]
Honesty/goodwill of the seller	5.90 [a]	5.88 [a]	5.99 [b]
Suits my family habit	4.84 [b]	4.40 [a]	5.20 [b]

[a] where 1 is "not at all important" and 6 is "very important" and those items with the same superscript are not significantly different at p = 0.05

Of the 40 criterion used in the decision to purchase, 19 were significantly different between all three clusters. Cluster 3 respondents scored highest for all 19 criterion, Cluster 1 respondents recorded medium scores for most of the 19 criterion and Cluster 2 respondents scored lowest for most of the 19 criterion (Figure 8.1).

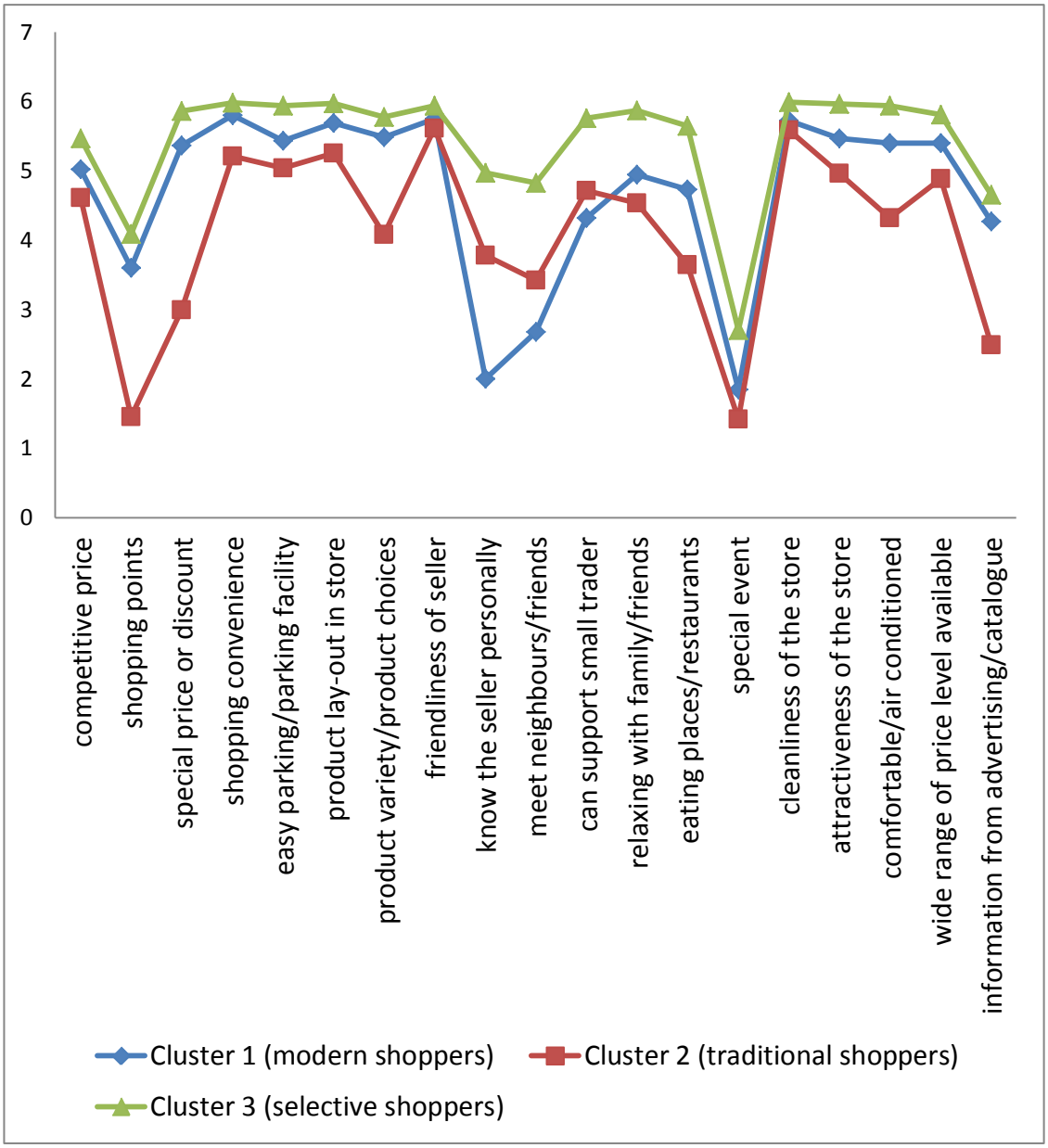


Figure 8.1: Store attributes of which the mean scores from the three clusters were significantly different

The largest cluster (Cluster 3) had significantly higher mean scores for all 19 store-related criterion. Most of these 19 criterion were associated with the characteristics of modern retailers (shopping points, special price/discounts, shopping convenience, product variety, relaxing/looking around with family/friends, eating places/restaurants, special events, cleanliness of the store, attractiveness of the store, comfortable/air conditioned and information from advertising/catalogue). Only three criterion were associated with traditional stores (know the seller personally, meet neighbours/friends and support for small traders). These high scores indicate that the respondents in Cluster 3 expected more from

both retailers. Using both wet markets and hypermarkets for food shopping meant that they could compare the strengths and weaknesses of traditional and modern retailers to utilize the best from each of them. Therefore, Cluster 3 was labelled as selective shoppers.

The second cluster identified in this study (Cluster 1) contained 27% of the respondents. Cluster 1 respondents had medium mean scores for most of the criterion (higher than the scores of Cluster 2 but lower than Cluster 3). These were mostly associated with the strength of modern retailers such as shopping points, special price/discounts, shopping convenience and easy parking. On the other hand, Cluster 1 respondents had the lowest mean score for the three criterion associated with traditional retailers: know the seller personally, meet neighbours/friends and support for small traders. Therefore, Cluster 1 was labelled as modern shoppers.

The smallest cluster identified in this study was Cluster 2 (17%). This cluster scored lowest for most of the modern store-related criteria. However, for the three criteria which were related to the strength of traditional wet markets (know the seller personally, meet neighbours/friends and support for small traders), Cluster 2 respondents had medium mean scores, which were significantly higher than Cluster 1 (modern) respondents but still lower than those of Cluster 3 (selective) respondents. The low scores were an indication that these respondents were traditional, generic and low-involved shoppers. Therefore, Cluster 2 was labelled as traditional shoppers.

Following Bourlakis, Ness and Priporas (2006), the cluster profiles were developed further with respect to other criteria (type of products purchased from a food store, survey time and location, the main food retailer, mode of transport, combining visits and socio-demographic characteristics). The relationship between clusters and shopping habits and socio-demographic criteria were identified by cross tabulation, where differences between the clusters were tested using chi-square.

8.5.1 One-way ANOVA for store attributes of food in general based on the three identified clusters

One-way analysis of variance was used in this study to assess the differences between the three clusters identified and the five factor means extracted (Table 8.7). Post hoc analysis using Tukey's HSD was employed to compare the means for the three cluster groups to identify any significant difference in the consumers' purchasing behaviour for food products in general.

Table 8.7: Mean scores for each factor for food based on cluster

Five factors identified for foods	Factor components	Mean scores[a]		
		Cluster 1	Cluster 2	Cluster 3
Factor 1: Modern retailer characteristics	brand variety product variety special price (discount) shopping points shopping convenience	5.115[b]	3.373[a]	5.382[c]
Factor 2: Efficient shopping	quick payment (check-out) product lay-out in store easy parking service can self-select	5.663[b]	5.499[a]	5.963[c]
Factor 3: Social relationship	know the seller personally meet neighbours/friends support small traders	3.002[a]	3.971[b]	5.180[c]
Factor 4: Food quality and safety	honesty of the seller food safety	5.887[a]	5.849[a]	5.990[b]
Factor 5: Competitive price	competitive price	5.018[b]	4.612[a]	5.468[c]

[a] Those items with the same superscripts are not significantly different at p=0.05

For the selective shoppers (Cluster 3), the means were significantly higher for all five factors. This was an indication that selective shoppers were more involved in their food shopping activities, as they spent more money for food each month. A cross-tabulation of clusters and monthly food expenditure groups (Table 8.27) showed that Cluster 3 had more respondents (56%) with high monthly food expenditure (more than IDR 1,500,000) compared to Cluster 1 (45%) and Cluster 2 (42%). Food safety and quality, and quick and efficient shopping seemed to be the most important. While competitive price was ranked lower, it continues to be very important in the consumers' decision to purchase, as are the characteristics of the modern retailer. Social relationships were also highly valued.

For Cluster 2 (traditional shoppers) food safety and quality was the most important factor in their decision to purchase food from a retail store. Quick and efficient shopping was also a major consideration. For these shoppers, a competitive price was of much lower importance, indicative of a willingness to make a trade-off because they could not travel or were not willing to travel to purchase a small quantity of food. For these shoppers, social relationships were very highly valued. The item which was of least importance to traditional shoppers was the characteristics of modern retail stores. These shoppers could buy all the food they needed in traditional retail markets.

For Cluster 1 (modern retail shoppers), given that food quality and safety is of universal importance, it was all about quick and efficient shopping. The characteristics of modern retail stores and a competitive price were rated similarly, implying that shoppers believed they were able to avail themselves of a wider choice at more competitive prices. For these shoppers, social relationships were of little importance.

8.5.2 Cluster profile based on the types of products purchased from wet markets

Cross-tabs were used to identify the relationship between the three clusters that had been identified and the type of products (food such as dry food, fresh fruit and vegetables, chicken or fish, frozen food, and non-food such as detergent and clothing) purchased by respondents from traditional wet markets (Table 8.8).

Table 8.8: Types of products purchased from traditional wet markets by cluster

Purchase dry food from wet market	**Cluster 1**		**Cluster 2**		**Cluster 3**		**Total**
	n	**%**	**n**	**%**	**n**	**%**	
Yes	20	8.9	41	29.9	47	12.2	108
No	205	91.1	96	70.1	337	87.8	638
Total	225	100.0	137	100.0	384	100.0	746
Pearson Chi-square = 33.64, df = 2, p = 0.000							
Purchase fruit from wet market	**Cluster 1**		**Cluster 2**		**Cluster 3**		**Total**
	n	**%**	**n**	**%**	**n**	**%**	
Yes	78	34.7	70	50.7	209	54.4	357
No	147	65.3	68	49.3	175	45.6	390
Total	225	100.0	138	100.0	384	100.0	747
Pearson Chi-square = 22.79, df = 2, p = 0.000							

Table 8.8: Types of products purchased from traditional wet markets by cluster cont.

Purchase vegetables from wet market	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Yes	185	82.2	122	88.4	345	89.8	652
No	40	17.8	16	11.6	39	10.2	95
Total	225	100.0	138	100.0	384	100.0	747
Pearson Chi-square = 7.62, df = 2, p = 0.022							
Purchase chicken/fish from wet markets	**Cluster 1**		**Cluster 2**		**Cluster 3**		**Total**
	n	**%**	**n**	**%**	**n**	**%**	
Yes	156	69.3	106	76.8	317	82.6	579
No	69	30.7	32	23.2	67	17.4	168
Total	225	100.0	138	100.0	384	100.0	747
Pearson Chi-square = 14.27, df = 2, p = 0.001							
Purchase frozen food from wet markets	**Cluster 1**		**Cluster 2**		**Cluster 3**		**Total**
	n	**%**	**n**	**%**	**n**	**%**	
Yes	5	2.2	6	4.3	17	4.4	28
No	220	97.8	132	95.6	367	95.6	719
Total	225	100.0	138	100.0	384	100.0	747
Pearson Chi-square = 2.08, df = 2, p = 0.353							
Purchase detergent from wet markets	**Cluster 1**		**Cluster 2**		**Cluster 3**		**Total**
	n	**%**	**n**	**%**	**n**	**%**	
Yes	16	7.1	36	26.1	98	25.5	150
No	209	92.9	102	73.9	286	74.5	597
Total	225	100.0	138	100.0	384	100.0	747
Pearson Chi-square = 33.77, df = 2, p = 0.000							
Purchase clothing from wet markets	**Cluster 1**		**Cluster 2**		**Cluster 3**		**Total**
	n	**%**	**n**	**%**	**n**	**%**	
Yes	31	13.8	37	26.8	130	33.9	198
No	194	86.2	100	73.2	254	66.1	548
Total	225	100.0	138	100.0	384	100.0	747
Pearson Chi-square = 29.35, df = 2, p = 0.000							

Based on the percentage of respondents who purchased different types of products from traditional wet markets, there were significant differences between the three clusters, except for frozen food. There was no significant difference between the purchases of frozen food

between the three clusters because traditional wet markets do not generally provide frozen foods due to limited freezer capacity.

For the other food categories (dry food, fruit, vegetable and chicken/fish), there were significant differences between the three clusters. More respondents from Cluster 2 (30%) purchased dry food from traditional wet markets than Cluster 1 (9%) and Cluster 3 (12%) respondents. For fruit, more respondents from Cluster 3 (54%) and Cluster 2 (51%) purchased fresh fruit from wet markets than Cluster 1 (35%). More respondents from Cluster 3 (90%) and Cluster 2 (88%) purchased fresh vegetables from wet markets compared to Cluster 1 (82%). Wet markets were also the main venue for the purchase of fresh chicken/fish: more respondents from Cluster 3 (83%) and Cluster 2 (77%) purchased chicken/fish from wet markets than Cluster 1 (70%).

For non-food categories (detergent and clothing) purchased from wet markets, the three clusters were significantly different. More respondents from Cluster 2 (30%) purchased detergent from wet markets compared to Cluster 3 (12%) and Cluster 1 (9%). For clothing, more respondents from Cluster 3 (34%) and Cluster 2 (27%) purchased clothing from wet markets compared to Cluster 1 (14%).

8.5.3 Cluster profile based on the types of products purchased from hypermarkets

Cross-tabulations were used to identify the relationship between the three clusters that had been identified and the type of products (food such as dry food, fresh fruit and vegetables, chicken or fish, frozen food, and non-food such as detergent and clothing) purchased by respondents from hypermarkets (Table 8.9).

Table 8.9: Types of products purchased from hypermarkets by cluster

Purchase dry food from hypermarket	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Yes	118	54.4	49	36.0	183	48.4	350
No	99	45.6	87	64.0	195	51.6	381
Total	217	100.0	136	100.0	378	100.0	731
Pearson Chi-square = 11.37, df = 2 , p = 0.003							

Purchase fruit from hypermarket	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Yes	77	35.3	30	22.1	102	27.0	209
No	141	64.7	106	77.9	276	73.0	523
Total	218	100.0	136	100.0	378	100.0	732
Pearson Chi-square = 8.16, df = 2 , p = 0.017							

Purchase vegetable from hypermarket	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Yes	28	12.8	3	2.2	27	7.1	58
No	190	87.2	133	97.8	352	92.9	675
Total	218	100.0	136	100.0	379	100.0	733
Pearson Chi-square = 13.68, df = 2, p = 0.001							

Purchase chicken/fish from hypermarket	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Yes	11	5.0	1	0.7	24	6.3	36
No	207	95.0	135	99.3	355	93.7	697
Total	218	100.0	136	100.0	379	100.0	733
Pearson Chi-square = 6.73, df = 2, p = 0.035							

Purchase frozen foods from hypermarket	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Yes	44	20.2	10	7.4	80	21.1	134
No	174	79.8	126	92.6	299	78.9	599
Total	218	100.0	136	100.0	379	100.0	733
Pearson Chi-square = 13.43, df = 2, p = 0.001							

Table 8.9: Types of products purchased from hypermarkets by cluster cont.

Purchase detergent from hypermarket	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Yes	108	49.5	45	33.1	178	47.1	134
No	110	50.5	91	66.9	200	52.9	599
Total	218	100.0	136	100.0	378	100.0	732
Pearson Chi-square = 10.26, df = 2, p = 0.006							
Purchase clothing from hypermarket	**Cluster 1**		**Cluster 2**		**Cluster 3**		**Total**
	n	**%**	**n**	**%**	**n**	**%**	
Yes	47	21.6	23	16.9	69	18.2	139
No	171	78.4	113	83.1	310	81.8	594
Total	218	100.0	136	100.0	379	100.0	733
Pearson Chi-square = 1.47, df = 2, p = 0.479							

For dry food, more respondents from Cluster 1 (54%) purchased dry food from hypermarkets, which was more than Cluster 3 (48%) and Cluster 2 (36%). For fruit, more of Cluster 1 respondents (35%) purchased fruit from hypermarkets, which was more than Cluster 3 (27%) and Cluster 2 (22%). Similar to fruit, more respondents from Cluster 1 (13%) purchased fresh vegetables from hypermarkets, which were more than Cluster 3 (7%) and Cluster 2 (2%). Only a few respondents purchased chicken/fish from hypermarkets. More respondents from Cluster 3 (6%) and Cluster 1 (5%) purchased chicken/fish from hypermarkets, which was more than Cluster 2 (0.7%). However, for frozen foods, more respondents from Cluster 3 (21%) and Cluster 1 (20%) purchased frozen foods from hypermarkets than Cluster 2 respondents (7%).

8.5.4 Cluster profile based on shopping habits and food expenditure

The cluster identification was also supported by the respondents' choice of their most important food retailer (Table 8.10). Cluster 1 (modern) respondents' showed a higher preference for hypermarkets (20%) or supermarkets (11%) as their main food retailer. However, half (51%) of Cluster 1 respondents still chose the wet market as their main food retailer, indicating the cross-shopping behaviour between modern and traditional retailers.

Table 8.10: The most important food retailer based on cluster

The most important food retailer	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Wet market	114	50.9	96	69.6	246	65.3	456
Temporary market	4	1.8	2	1.4	8	2.1	14
Minimarket	13	5.8	5	3.6	7	1.9	25
Supermarket	25	11.2	6	4.3	14	3.8	45
Hypermarket	44	19.6	7	5.1	64	17.0	115
Warung	18	8.0	17	12.3	22	5.8	57
Independent grocer	6	2.7	5	3.6	16	4.2	27
Total	224	100.0	138	100.0	377	100.0	739
Pearson Chi-square = 45.93, df = 12, p = 0.000							

Cluster 2 (traditional) respondents showed a high preference (70%) for the wet market as their main food retailer. Some 12% chose *warung* as their most important food retailer which was higher than the two other clusters, but only 5% chose hypermarkets as their main food retailer. The majority of Cluster 3 respondents (65%) still preferred wet markets as their main food retailer, but some 17% considered hypermarkets to be their most important food retailer.

Cross-tabulations were also conducted to investigate the relationship between monthly food expenditure for each food retailer patronised by respondents by cluster (Table 8.11). Results showed that respondents from Cluster 1 spent significantly more money (p=0.05) in hypermarkets and supermarkets than Cluster 2 and Cluster 3, and their combined spending in hypermarkets and supermarkets was higher than their spending in wet markets. This supports the supposition that Cluster 1 was comprised of modern shoppers.

Table 8.11: Food expenditure (IDR/month) in each food retailer based on cluster[a]

Average food expenditure (IDR/month)	Cluster 1	Cluster 2	Cluster 3
In wet market	819,801[a]	1,081,328[b]	951,526[ab]
In supermarket	387,705[b]	226,052[a]	328,743[ab]
In hypermarket	571,465[b]	370,289[a]	491,470[ab]
In minimarket	286,923[a]	206,532[a]	203,180[a]
In temporary market	250,259[a]	162,413[a]	207,204[a]
In *warung*	254,593[a]	307,821[a]	274,335[a]
In independent grocer	374,610[a]	373,939[a]	813,166[a]
In hawker	131,269[a]	93,181[a]	133,666[a]
In roadside kiosk	89,518[a]	133,478[a]	73,953[a]

[a] Those items with the same superscripts are not significantly different at p=0.05

Cluster 2 respondents spent significantly more in the traditional wet market than Cluster 1 and Cluster 3. Respondents from Cluster 2 spent much more on average in wet markets than the combination of their spending in hypermarkets and supermarkets. This confirmed that Cluster 2 consisted of traditional shoppers who preferred the wet markets.

Respondents in Cluster 3 spent an equal amount between wet markets and hypermarkets combined with supermarkets. This confirms that Cluster 3 consisted of selective shoppers who split their food expenditure between traditional wet markets and hypermarkets/supermarkets.

There was no significant difference between the clusters for food expenditure in minimarkets, temporary markets, *warungs*, independent grocers, hawkers and roadside kiosks. The average monthly amount spent for these retailers by the three clusters were less than the amount spent in wet markets and super/hypermarkets. This suggests that these other food retailers are primarily convenience outlets.

Cross-tabulation was then used to investigate the relationship between clusters and shopping frequencies at different food retail stores (wet market, temporary market, *warung*, minimarket, supermarket and hypermarket). Most of the respondents in Cluster 2 (34%) shopped daily at wet markets (Table 8.12). A similar number of respondents in Cluster 3 (29%) also shopped daily at wet markets, but only 13% of the respondents in Cluster 1 shopped daily at wet markets. The majority of respondents in Cluster 1 (41%) shopped weekly at wet markets, while 25% of Cluster 2 and 32% of Cluster 3 shopped weekly in wet

markets. There were more respondents from Cluster 1 (13%) who never shopped at wet markets, while only 7% of Cluster 2 and 6% of Cluster 3 never shopped at wet markets.

Table 8.12: Shopping frequency at wet market based on clusters

Shopping frequency at wet market	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Every day	28	12.5	47	34.3	110	28.9	185
2-3 times a week	43	19.2	30	21.9	67	17.6	140
Once a week	92	41.1	34	24.8	120	31.5	246
2-3 times a month	10	4.5	3	2.2	8	2.1	21
Once a month	8	3.6	2	1.5	6	1.6	16
Seldom	14	6.3	11	8.0	47	12.3	72
Never	29	12.9	10	7.3	23	6.0	62
Total	224	100.0	137	100.0	381	100.0	742
Pearson Chi-square = 49.69, df = 12, p = 0.000							

Shopping frequency at temporary markets showed that this type of retailer was not very common among respondents (Table 8.13). Furthermore, there were no significant differences among the three clusters in terms of their shopping frequency from the temporary markets. Some respondents believed that these temporary markets had only become established in the last few years to cater to consumers close to their place of residence. The majority of respondents never shopped at temporary markets: Cluster 1 (64%), Cluster 2 (75%) and Cluster 3 (76%). Some 7-12% of respondents visited temporary markets only one time per week.

Table 8.13: Shopping frequency at temporary market based on clusters

Shopping frequency at temporary market	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Every day	1	0.4	1	0.7	3	0.8	5
2-3 times a week	12	5.3	2	1.4	15	3.9	29
Once a week	26	11.6	17	12.2	26	6.8	69
2-3 times a month	3	1.3	0	0.0	4	1.0	7
Once a month	7	3.1	2	1.4	9	2.3	18
Seldom	33	14.7	13	9.4	35	9.1	81
Never	143	63.6	104	74.8	291	76.0	538
Total	225	100.0	139	100.0	383	100.0	747
Pearson Chi-square = 19.06, df = 12, p = 0.087							

The shopping frequency at small neighbourhood stores (*warungs*) showed that most of the respondents in Cluster 2 (35%) shopped daily at *warungs* (Table 8.14). This was significantly higher than those in Cluster 1 (24%) and Cluster 3 (22%). However, some 27% of the respondents in Cluster 1 shopped 2-3 times a week at *warungs*, while 22% of the respondents in Cluster 2 and 16% of the respondents in Cluster 3 shopped 2-3 times a week at *warungs*, respectively. On the other hand, most of the respondents in Cluster 3 (43%) never shopped at *warungs*, indicating that they fulfilled most of their food needs by cross-shopping between traditional wet markets and hypermarkets. Some 26% of the respondents in Cluster 1 and 27% of the respondents in Cluster 2 never shopped at *warungs*.

Table 8.14: Shopping frequency at *warungs* based on clusters

Shopping frequency at *warungs*	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Every day	54	24.2	47	34.6	82	21.8	183
2-3 times a week	59	26.5	30	22.1	60	16.0	149
Once a week	4	1.8	3	2.2	14	3.7	21
2-3 times a month	4	1.8	4	2.9	4	1.1	12
Once a month	3	1.3	3	2.2	4	1.1	10
Seldom	41	18.4	13	9.6	51	13.6	105
Never	58	26.0	36	26.5	161	42.8	255
Total	223	100.0	136	100.0	376	100.0	735
Pearson Chi-square = 49.69, df = 12, p = 0.000							

The shopping frequency at minimarkets (Table 8.15), showed that the majority (64%) of the respondents in Cluster 3, over half (54%) of the respondents in Cluster 2 and about 40% of the respondents in Cluster 1 never shopped at minimarkets. However, more respondents from Cluster 1 shopped at minimarkets monthly (13%) and weekly (10%) compared to the other two clusters.

Table 8.15: Shopping frequency at minimarket based on clusters

Shopping frequency at minimarket	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Every day	6	2.7	1	0.7	2	0.5	9
2-3 times a week	17	7.7	9	6.5	17	4.5	43
Once a week	23	10.4	6	4.3	12	3.2	41
2-3 times a month	19	8.6	8	5.8	23	6.1	50
Once a month	29	13.1	10	7.2	28	7.4	67
Seldom	40	18.0	30	21.7	56	14.8	126
Never	88	39.6	74	53.6	241	63.6	403
Total	222	100.0	138	100.0	379	100.0	739
Pearson Chi-square = 46.76, df = 12, p = 0.000							

The shopping frequency at supermarkets (Table 8.16) showed that the majority of respondents in Cluster 2 (60%) and about half of Cluster 3 (47%) never shopped at supermarkets. On the other hand, only 23% of Cluster 1 never shopped at supermarkets. Supermarkets seems to be important for the modern cluster (Cluster 1), as some of them shopped monthly (20%), weekly (19%) or 2-3 times a week (10%) from supermarkets, which were higher than the other two clusters.

Table 8.16: Shopping frequency at supermarket based on clusters

Shopping frequency at supermarket	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Every day	1	0.5	0	0.0	1	0.3	2
2-3 times a week	23	10.4	8	5.8	23	6.1	54
Once a week	41	18.6	9	6.6	31	8.2	81
2-3 times a month	24	10.9	11	8.0	41	10.8	76
Once a month	44	19.9	11	8.0	48	12.7	103
Seldom	37	16.7	20	14.6	55	14.6	112
Never	51	23.1	78	56.9	179	47.4	308
Total	221	100.0	137	100.0	378	100.0	736
Pearson Chi-square = 60.90, df = 12, p = 0.000							

Shopping frequency at hypermarkets (Table 8.17) showed that more respondents from the modern cluster (Cluster 1) shopped monthly (27%), 2-3 times a week (13%) or weekly (11%) compared to the other two clusters. About one half (47%) of the traditional cluster (Cluster 2) never shopped at hypermarkets and one quarter (25%) seldom shopped at hypermarkets.

Table 8.17: Shopping frequency at hypermarket based on clusters

Shopping frequency at hypermarket	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Every day	3	1.4	2	1.5	5	1.3	10
2-3 times a week	19	8.6	4	2.9	2	0.5	45
Once a week	25	11.3	5	3.6	34	9.0	64
2-3 times a month	29	13.1	12	8.8	33	8.7	74
Once a month	59	26.6	16	11.7	73	19.3	148
Seldom	36	16.2	34	24.8	73	19.3	143
Never	51	23.0	64	46.7	138	36.5	253
Total	222	100.0	137	100.0	378	100.0	737
Pearson Chi-square = 40.97, df = 12, p = 0.000							

Cross-tabs were also used to investigate the relationship between cluster membership and whether the respondents combined their visits to wet markets with super/hypermarkets (Table 8.18). Results showed that most of the respondents from all three clusters did not combine their visits to wet markets and supermarket/hypermarkets. However, among the three clusters, Cluster 2 (traditional shoppers) had the highest percentage of respondents (30%) who combined their visits to wet markets and supermarket/hypermarkets.

Table 8.18: Combining visits to wet market and super/hypermarket by cluster

Combining wet market visit with super/ hypermarket	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Yes	45	22.0	36	29.3	43	16.3	124
No	160	78.0	87	70.7	220	83.7	467
Total	205	100.0	123	100.0	263	100.0	591
Pearson Chi-square = 8.61, df = 2, p = 0.013							

When cross-tabs were used to investigate the relationship between cluster membership and the mode of transport to wet markets (Table 8.19), a larger percentage of the respondents in Cluster 2 (28%) walked to wet markets, indicative of the close proximity. Motorbike was the most popular mode of transport used by respondents from all three clusters, probably due to affordability. However, Cluster 2 had the lowest percentage of respondents who used

motorbike (52%) to go to wet markets, because some of them relied on walking and public transport. Private cars are the least affordable type of vehicle in Indonesia. Cluster 1 had the highest percentage of respondents (10%) using a car to go to wet markets, followed by Cluster 3 (8%) and Cluster 2 (4%).

Table 8.19: Transport to wet market by cluster

Transport to wet market	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Walking	15	7.5	35	27.8	56	15.7	106
Bike	0	0.0	0	0.0	1	0.3	1
Motorbike	144	72.0	65	51.6	220	61.6	429
Car	20	10.0	5	4.0	27	7.6	52
Public transport	21	10.5	21	16.7	53	14.8	95
Total	200	100.0	126	100.0	357	100.0	683
Pearson Chi-square = 32.98, df = 8, p = 0.000							

A cross-tab between cluster membership and the mode of transport to hypermarkets (Table 8.20) showed that 29% of the respondents in Cluster 1 used a car to go to hypermarket which was higher than those of Cluster 3 (25%). Only 14% of the respondents in Cluster 2 used a car to go to the hypermarket. Again, motorbike was the most common mode of transport to the hypermarket for all three clusters. On the other hand, there were more respondents from Cluster 2 who used public transport (26%) or walked (11%) to the hypermarket compared to the modern and selective clusters.

Table 8.20: Transport to hypermarket by cluster

Transport to hypermarket	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Walking	7	4.1	8	11.1	11	4.6	26
Bike	1	0.6	0	0.0	2	0.8	3
Motorbike	101	59.1	35	48.6	134	56.5	270
Car	50	29.2	10	13.9	59	24.9	119
Public transport	12	7.0	19	26.4	31	13.1	62
Total	171	100.0	72	100.0	237	100.0	480
Pearson Chi-square = 26.30, df = 8, p = 0.001							

8.5.5 Cluster profile based on socio-demographic criteria

Cross-tabulations were subsequently used to identify any differences in the socio-demographic profiles of the respondents by cluster.

Table 8.21 describes the distribution of age groups among the three clusters. Cluster 1 (modern) had a higher percentage (39%) of younger respondents aged 18-24 years. Correspondingly, this cluster had a lower percentage (5%) of older respondents (55 years and older). More than half (56%) of the respondents were mature age (25-54 years).

Table 8.21: Age group based on cluster

Age group	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
18-24	88	39.3	26	19.1	80	21.3	194
25-34	47	21.0	31	22.8	115	30.6	193
35-44	47	21.0	31	22.8	106	28.2	184
45-54	31	13.8	29	21.3	59	15.7	119
55-64	8	3.6	14	10.3	14	3.7	36
65 or older	3	1.3	5	3.7	2	0.5	10
Total	224	100.0	136	100.0	376	100.0	736
Pearson Chi-square = 49.79, df = 10, p = 0.000							

On the other hand, most of Cluster 2 (traditional) respondents (67%) were mature age (25-54 years), with a higher percentage (14%) of older respondents (55 years and older). Only 19% of the respondents in this group were aged 18-24 years. Cluster 3 (selective) had the highest percentage (75%) of mature respondents (25-54 years). Some 21% of the respondents in Cluster 3 were aged 18-24 years, but only 4% were aged 55 years or more.

Based on the highest level of education completed, most of respondents from the three clusters were senior high school graduates (Table 8.22). There were 58%, 46% and 48% senior high school graduates in Cluster 1, 2 and 3, respectively. Cluster 2 respondents were found to have a lower level of education, with some 18% having completed primary school and 19% having only completed junior high school. On the other hand, a greater number of respondents in Cluster 1 and 3 had achieved a higher education with more respondents having completed diploma, graduate and postgraduate education.

Table 8.22: Education level based on cluster

Highest level of education completed	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Did not complete primary school	2	0.9	3	2.2	8	2.1	13
Primary school	8	3.6	25	18.4	29	7.7	62
Junior high school	13	5.9	26	19.1	52	13.8	91
Senior high school	129	58.1	63	46.3	181	48.0	373
Diploma	15	6.8	5	3.7	24	6.4	44
Graduate and postgraduate	55	24.8	14	10.3	83	22.2	152
Total	222	100.0	136	100.0	377	100.0	735
Pearson Chi-square = 51.12, df = 10, p = 0.000							

A motorbike was the most common vehicle in Indonesia. The majority of respondents from all three clusters owned at least one motorbike. On the other hand, there were significant differences between the three clusters in terms of car ownership (Table 8.23). More respondents (35%) from the modern cluster (Cluster 1) and selective cluster (Cluster 3) (31%) owned a car compared to the traditional cluster (Cluster 2) (19%).

Table 8.23: Car ownership based on cluster

Car ownership	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Yes	77	35.3	25	18.7	110	31.2	212
No	141	64.7	109	81.3	243	68.8	493
Total	218	100.0	134	100.0	353	100.0	705
Pearson Chi-square = 11.36 df = 2, p = 0.003							

Similar to car ownership, there were significant differences between the three clusters in terms of credit card ownership (Table 8.24). The selective cluster (Cluster 3) had the most respondents who had a credit card (22%), compared to 15% of Cluster 1 (modern) and only 6% of Cluster 2 (traditional).

Table 8.24: Credit card ownership based on cluster

Credit card ownership	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Yes	31	15.1	7	5.6	72	21.9	110
No	174	84.9	117	94.4	257	78.1	548
Total	205	100.0	124	100.0	329	100.0	658
Pearson Chi-square = 17.60 df = 2, p = 0.000							

Cross-tabs were also conducted to investigate t relationship between monthly household income groups and the clusters (Table 8.25). Cluster 1 (modern) and Cluster 3 (selective) both had 9% of respondents in the highest income group (IDR 9,000,000 or more) whereas the traditional cluster (Cluster 2) was found to have only 5%. For the income group of IDR 4,501,000 to 6,000,000, which was relatively high, the modern cluster had the highest percentage (19%) compared to the selective cluster (14%) and traditional cluster (13%).

Table 8.25: Monthly household income group based on cluster

Monthly household income group (husband and wife)	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Less than IDR 500,000	1	0.5	3	2.2	10	2.7	14
IDR 501,000 - 1,000,000	27	12.2	17	12.6	32	8.6	76
IDR 1,001,000 - 2,000,000	52	23.4	25	18.5	59	15.9	136
IDR 2,001,000 - 3,000,000	38	17.1	39	28.9	82	22.0	159
IDR 3,001,000 - 4,500,000	29	13.1	19	14.1	74	19.9	122
IDR 4,501,000 - 6,000,000	42	18.9	17	12.6	51	13.7	110
IDR 6,001,000 - 9,000,000	14	6.3	8	5.9	31	8.3	53
More than IDR 9,000,000	19	8.6	7	5.2	33	8.9	59
Total	222	100.0	135	100.0	372	100.0	729
Pearson Chi-square = 26.46, df = 14, p = 0.023							

The modern cluster, however, also had the highest percentage (23%) of lower income respondents (IDR 1,001,000 to 2,000,000) compared to the traditional cluster (19%) and selective cluster (16%). This was probably related to the higher percentage of young respondents (39%) in Cluster 1. Cluster 2 had the highest percentage (29%) of households with monthly income of IDR 2,001,000--3,000,000 compared to Cluster 3 (22%) and Cluster

1 (17%). This was probably related to the income of pensioners, as Cluster 2 had a higher percentage of older respondents.

Previous research proposed that modern retail patronage was supported by the stability of household income. The results show that there were significant differences between the three clusters in terms of income stability (Table 8.26).

Table 8.26: Frequency of income based on cluster

Frequency of income	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
Weekly	5	2.3	4	2.9	12	3.4	21
Monthly	176	81.1	76	55.9	261	73.1	513
Irregular	36	16.6	56	41.2	84	23.5	176
Total	217	100.0	136	100.0	357	100.0	710
Pearson Chi-square = 28.79, df = 4, p = 0.000							

The majority (81%) of Cluster 1 (modern shoppers) received regular (monthly) income in the household. About half of the respondents in Cluster 2 (traditional shoppers) (56%) received monthly income, but some 41% received irregular income. Almost three-quarters (73%) of the respondents in Cluster 3 (selective shoppers) received a monthly income. Only a few respondents from all three clusters received a weekly income payment in Pekanbaru City.

A cross-tabulation was then used to investigate the relationship between clusters and monthly food expenditure groups (Table 8.27). The results show that Cluster 3 had more respondents (56%) with high monthly food expenditure (more than IDR 1,500,000) compared to Cluster 1 (45%) and Cluster 2 (42%). This indicated that for respondents in Cluster 3, food shopping might be a higher involvement activity due to their high household spending on food.

Table 8.27: Monthly household food expenditure group based on cluster

Average monthly household food expenditure group	Cluster 1		Cluster 2		Cluster 3		Total
	n	%	n	%	n	%	
IDR 250,000 or less	1	0.5	5	3.7	6	1.6	12
IDR 251,000-500,000	31	14.0	13	9.5	21	5.7	65
IDR 501,000-1,000,000	61	27.5	36	26.3	75	20.4	172
IDR 1,001,000-1,500,000	29	13.1	26	19.0	58	15.8	113
More than IDR 1,500,000	100	45.0	57	41.6	207	56.4	364
Total	222	100.0	137	100.0	367	100.0	726
Pearson Chi-square = 26.61, df = 8, p = 0.001							

Cross-tabulations were then used to investigate the relationship between clusters and household size (number of immediate family members In this study, about a quarter (24-25%) of respondents from the three clusters had a family of four immediate members. About 20-24% had a family of three and the other 19-20% had a family of five. However, differences between the clusters were insignificant.

8.6 Discussion

The results of the study showed that the choice of first food retailer by respondents was directed by their needs. Respondents purposefully selected a retailer which was considered cheaper/more affordable to purchase the majority of their general food items. The main food retailer was selected due to convenience (e.g., closer, complete, provides many choices). Quality (freshness) was important (mainly for fresh produce) as well as promotions/special offers (mainly for dry packaged foods).

Among the retailers mentioned by the respondents as their first/main retailer for food were wet market, temporary market, minimarket, supermarket, hypermarket, *warung* and independent grocer. This supports previous studies that Indonesian households typically patronise three to four different retail shopping channels, depending on their needs and consumers' monthly food expenditure (WARC 2011). Among those main food retailers identified by respondents in this study, the most important retailers were traditional wet markets and hypermarkets. This descriptive result supports the decision to draw respondents in this study from both the traditional wet markets and modern hypermarkets. The findings in this study which showed that modern food retailers, especially hypermarkets, are gaining

popularity was consistent with the findings of Gorton, Sauer and Supatpongkul (2011). Using secondary econometric data from Thailand and other East Asian countries, they found that while wet markets still account for the majority of expenditure on FFV, fresh meat and fish, they also noted that modern retailers were no longer marginal stores for fresh food. A recent survey of 24 provinces in Indonesia has revealed that traditional retail formats (small stores, *warungs* and wet markets) still dominate the food retail market in Indonesia, but modern retailers' share of the market continues to rise (Razdan, Das and Sohoni 2013).

Literature on cross-shopping behaviour in Chapter 3 (Skallerud, Korneliussen and Olsen 2009; Carpenter and Moore 2006) indicated that the availability of different food retail stores will influence consumers' store patronage. In Indonesia and Asia, the available retail formats are generally similar but with variation between areas. A recent survey by Deloitte (2015) in five large cities in Indonesia, mostly in Java, identified six food retail formats: street hawkers, wet markets, *warungs,* minimarkets, supermarkets and hypermarkets. These retail formats are almost similar to retail formats identified in Pekanbaru City, however, in the current study, apart from those formats, independent grocers (Chinese grocers) and temporary half-day markets were also identified as important. Street hawkers were also identified in this study but they were not prominent retailers due to their limited numbers in certain housing areas. A possible reason for this is that in Sumatra, the population density is relatively lower compared to that in Java, thus the housing complexes were more widely distributed to be accessed by street hawkers such as in Deloitte's finding.

The majority of respondents in this study provided reasons for their choice of second most important food retailer, indicating that an element of cross-shopping behaviour existed between at least two food retailers. The secondary food retail stores were mainly selected due to immediacy/happenstance/context when consumers need to purchase quickly. This reason can be seen from the high frequency of respondents who cited closer location as the main reason for choosing their second most important food retailer. Nevertheless, a cheaper price was also important in selecting their second most important food retailer.

The responses on other reasons to patronise the second most important food retailer showed a complementary relationship with the primary retailer of choice. If the main retailer was the traditional wet market, the respondent may complement this with hyper/supermarkets based on reasons such as: refreshing, promotions, clean, the presence of price labels and to purchase dry food/durable goods. On the other hand, if the main retailer was a hypermarket, the respondent may complement that with traditional wet market, temporary markets or

warungs based on reasons such as: freshness, ability to bargain, practicality, knowing the seller and ability to buy in small quantities.

Based on open-ended responses, the respondents in this study revealed many different determinants to explain their patronage of their first and second most important food retailers. The majority of respondents indicated that they cross-shopped between at least two food retailers and that the determinants for their cross-shopping behaviour were complementary between the patronised food retailers. Therefore, this study confirms findings from previous studies (Jayasankaraprasad and Kathyayani 2014; Prasad and Aryasri 2011) that most food and grocery shoppers exhibit cross-shopping behaviour among different retail food stores.

According to Jayasankaraprasad and Kathyayani (2014), the proliferation of different retail formats allows consumers to compare the stores and consider cross-shopping as a strategy to satisfy their increasing needs. Related to the diffusion of modern retail formats in developing countries, Rogers (1995) suggests that innovations (the development of new retail formats) can lead to consumers' needs, hence the awareness of the existence of hypermarkets and supermarkets can create motivation for the consumers to adopt them.

To further evaluate the complementary functions between different formats of traditional and modern food retailers, the reasons to select the main food retailers were then grouped according to respondents' main food retailer. This revealed the specific reasons to patronise certain food retailers over other retailers.

For traditional food retailers (wet markets, temporary markets and independent grocers), the main reasons to patronise were price (cheaper/more affordable) and convenience (closer), while for *warungs* (neighbourhood stores), the main reason was mostly due to convenience/closer location. These findings resonate with recent findings from Deloitte (2015) that the two main reasons consumers shop in wet markets were price and location, while reasons to shop in *warungs* were location and convenience.

For modern food retailers (minimarkets, supermarkets, hypermarkets), respondents listed a wider range of reasons (price, convenience, quality, promotions, refreshing/window shopping and price label) to patronise modern retailers. Related to this finding, Deloitte (2015) also identified some similar determinants for consumers to shop from supermarkets and hypermarkets; these are store availability, assortments, convenience, promotions and price. This current study suggests that other than these determinants, the opportunity to look around and having a clear price tag were also important for consumers.

Other than price and convenience, respondents who spent most at traditional retailers patronised a store because it provided fresh food (for wet market, temporary market and *warung*). However, freshness was not a reason to patronise an independent grocer as this type of store only sold dry foods and durable goods/household items. Similarly, respondents who spent most at modern retailers did not mention freshness at all because they mostly patronised modern retailers to purchased dry foods. This indicated the split purchasing behaviour between durable dry foods and perishables, confirming the theory of selective adoption (Dholakia, Dholakia and Chattopadhyay 2012; Gorton, Sauer and Supatpongkul 2011; Hino 2010; Maruyama and Trung 2007; Goldman and Hino 2005) at the initial stage of modern retail diffusion in developing countries. At this stage, consumers start to purchase packaged food from supermarkets, but still rely on traditional retailers for fresh food due to freshness, cheaper price and closer location (Coca Cola Retailing Research Council Asia 2007).

The exploratory factor analysis applied to the 40 store attributes resulted in five constructs underpinning the consumers' decision to purchase food products in general: modern retailer characteristics, efficient shopping, social relationships, food quality and safety, and competitive price. This study found that the most important construct for consumers was 'food quality and safety', followed by 'efficient shopping' and 'competitive price'. The two other constructs ('modern retailer characteristics' and 'social relationships') were of lesser importance in consumers' decision to buy food products. This implies that consumers will do their best, subject to their limitations, to purchase food from those retailers that provide the best quality safe food efficiently at the most competitive price, regardless of whether it was a traditional retailer or a modern retailer.

Both food safety and price were also recognised as factors influencing food store choice by Toiba *et al.* (2013) who found that in Java, consumers who are concerned about food safety are more likely to shop from modern food retailers, while those who are more concerned about price are likely to shop from traditional food retailers. Related to the construct of 'efficient shopping', Toiba *et al.* (2013) concluded that the further away a retailer is located, the less likely consumers shop from that retailer. Kenhove and De Wulf (2000) revealed that consumers are more concerned about the efficiency of their shopping due to time pressure as more time is allocated for work. Another study by Deloitte (2015) was specific for packaged food, and this study suggested that the main determinants to purchase packaged food were taste, followed by price, overall quality, health and safety.

Compared to previous studies, the three main determinants to purchase general food products identified in this study are consistent with the findings of Toiba *et al.* (2013) who included different types of food in their survey. However, compared to the findings of Deloitte (2015), this current study differ in terms of the importance of food quality and food health and safety. This might be due to the difference in food category under study. For packaged food, quality, health and safety are considered less important than price and taste, because the label and brand on the packaging provides consumers with assurance of food quality and safety. According to Kathuria and Gill (2013), consumers perceive branded dry foods to have more assurance on quality and safety. Meanwhile, for food products in general (which includes fresh food), consumers were more cautious regarding food quality and safety of the food. This could also be related to the prevalence of food safety incidents in Indonesia. Therefore, this present study expands the literature on determinants of food shopping in Indonesia by providing more details regarding three distinct food categories (packaged/processed, semi-processed and fresh food) which will be discussed further in the next chapter.

Two other constructs ('modern retailer characteristics' and 'social relationships') were of lesser importance in the consumers' decision to buy general food products. This is probably related to the fact that in the case of selective adoption, consumers split their purchases (fresh food from traditional retailers and dry packaged food from modern retailers). Therefore for general food which consists of fresh and dry food, the attributes of modern retailers and social relationship associated with traditional retailers became less significant for the mix of fresh and dry food.

To examine competition and split adoption between modern retailers and traditional wet markets, cluster analysis was applied to the respondents' rating for food retail store attributes to identify any consumer segments among Indonesian food shoppers. The study identified three distinct groups that rated 19 of the 40 variables significantly differently - high, medium and low. However, with the exception of three variables - know seller personally, meet neighbours and support small traders - the rank order of importance did not change between clusters.

Of the three distinct clusters identified, the smallest cluster (Cluster 2) had the lowest mean scores for modern retailer store attributes but had medium scores for traditional retailer attributes, and was hence labelled as traditional shoppers. The second largest cluster (Cluster 1) had medium mean scores for the attributes of modern retail stores but had the lowest mean scores for traditional retail attributes. This group was correspondingly labelled as modern

shoppers. The largest cluster (Cluster 3) had significantly higher mean scores for food store attribute ratings associated with both modern and traditional food retailers. This group was labelled as selective shoppers. Comparison of the three clusters can be seen in Appendix H.

The identification of three consumer clusters in this study (those who mainly purchase food from traditional retailers, those who mainly purchase food from modern retailer and those who patronise both traditional and modern retailers), is similar to other studies in Thailand (Kelly *et al.* 2015) and Malaysia (Chamhuri 2011) which have identified traditional shoppers, modern shoppers and mixed shoppers. However, the proportion of these three clusters differs. For instance, in Kelly *et al.* (2015) study, the fresh market shoppers were the largest group (more than half of respondents), followed by supermarket shoppers and mixed shoppers. Possible explanations for this difference are differences in the particular characteristics of the survey region (e.g., urban versus rural), the state of diffusion of modern retailers in the survey region and possibly the different criteria used to group the food shoppers.

Post hoc analysis showed that there were significant differences between the means for most of the five constructs which were considered most influential in consumers' decision to purchase food products among the three clusters. Cluster 2 (traditional shoppers) scored the lowest for the factors except 'social relationship' which was scored medium. This cluster valued 'food quality and safety' and 'efficient shopping' highly, but 'competitive price' was of much lower importance, indicating their willingness to compromise on price due to some personal limitations. Cluster 2 valued 'social relationships' more highly than Cluster 1, but 'modern retailer characteristics' was of least importance because they mostly relied on traditional food retailers. Given that food quality and safety is of universal importance for all three clusters, Cluster 1 (modern shoppers) focused on quick and efficient shopping. The characteristics of modern retail stores and a competitive price were rated similarly, implying that shoppers believed they were able to avail themselves of a wider choice at more competitive prices in hypermarkets/supermarkets. Not surprisingly, social relationships were of little importance for Cluster 1. The largest cluster identified in this study, Cluster 3 (selective shoppers) had higher means for all five factors, indicating that these shoppers were more involved in their food shopping activities, due to their high monthly food expenditure.

The highest percentage of selective shoppers in this study resemble the largest cluster identified among Indian grocery shoppers by Jayasankaraprasad and Kathyayani (2014) which they labelled as 'economic shoppers'. This economic cluster among Indian consumer has the highest mean scores for value for money, price and promotions. These economic shoppers are rational shoppers who have patronised multiple formats to get the best value for

money, which resembles selective shoppers identified in this study. Therefore, the selective shoppers are demanding shoppers because they rate most of the store attributes very highly. The high involvement of the largest cluster in the present study contradicts the perspective from Western literature such as Quester, Pettigrew and Hawkins (2011) who suggested that food purchase is a low-involvement decision due to the character of repeat decisions that consumers make based on past experience. One explanation for the difference in involvement level is the high percentage of food expenditure in developing countries such as Indonesia. According to D'Andrea, Stengel and Goebel-Krstelj (2004), households in developing countries spend about 50 to 75 percent of their disposable income on consumer products including food and grocery. In this condition, food shopping is crucial for consumers and they are more involved in the process of purchasing compared to those in developed economies.

Based on their demographic data, Cluster 3 (selective shoppers/cross-shoppers) had sufficient income and vehicle to facilitate their cross-shopping behaviour when purchasing food. This finding was supported by Goldman and Hino (2005) who suggested that consumers need to possess certain economic ability such as car and food storage to take the best advantage of modern food retailers. Within the context of this study, consumers need these economic abilities to conduct cross-shopping. As they cross-shop, Cluster 3 can compare among the stores and tend to be more demanding as they expect more, which was supported by their highest mean scores for store attributes.

This study also compared the three clusters (traditional, modern and selective/cross-shoppers) in terms of products purchased from wet markets and hypermarkets, shopping habits and socio-demographic characteristics. Evaluation of the product types purchased from traditional wet markets and hypermarkets by Cluster 2 shoppers supports its identification as traditional cluster. The majority of respondents from Cluster 2 purchased all product categories from traditional wet markets. The majority of the respondents in Cluster 2 selected wet market as their main food retailer where they shopped more frequently (daily or 2-3 times a week) compared to the other two clusters. Accordingly, Cluster 2 respondents spent significantly more in the traditional wet markets. In terms of shopping frequencies at *warungs*, more respondents from Cluster 2 shopped at *warungs* daily, indicating they relied more on neighbourhood stores due to certain limitations such as transport or budget. The majority of Cluster 2 respondents were of mature age (25-54 years old). Cluster 2 had fewer respondents with higher education (diploma, graduate and postgraduate) and the lowest percentage of respondents who owned a car and a credit card. Cluster 2 also had fewer respondents from the highest income group of IDR 9,000,000 or more. The majority of

Cluster 2 respondents were from low to medium income groups and more respondents from Cluster 2 received irregular income. The characteristics of this traditional cluster was similarly identified by Tessier (2010) who noted that for consumers from the lowest income group, the traditional food shop nearby was the main and only place to buy food due to lack of steady income.

Meanwhile, in Cluster 1, there were more respondents who purchased all product categories from hypermarkets, with participants showing a higher preference for hypermarkets and supermarkets as their most important food retailers. Cross-tabulation showed that respondents from Cluster 1 spent significantly more in hypermarkets and supermarkets. More respondents from Cluster 1 shopped monthly or weekly in minimarkets, supermarkets and hypermarkets, supporting the identification of this cluster as modern shoppers. However, half of the respondents in Cluster 1 still chose wet markets as their most important food retailer, because they still purchased some of their fresh food from traditional wet markets. This can be seen from their frequency of visits to wet markets and the types of products they purchased from wet markets. Most of the respondents in Cluster 1 still visited wet markets on a weekly basis to purchase fresh food (vegetable and chicken/fish), albeit the proportion of fresh food purchased from the wet markets was lower than the other two clusters. Some respondents from Cluster 1 also shopped daily or 2-3 times a week from *warungs*, presumably for urgent needs/top-up purchases. The shopping habits of Cluster 1 were also indicative of an element of cross-shopping behaviour.

More than half of the respondents in Cluster 1 were mature aged (25-54 years old) but Cluster 1 had a higher percentage of young respondents aged 18-24 years old among the three clusters which may be related to the fact that Pekanbaru City is the centre of Riau Province where all public and local universities are located. Cluster 1 had more respondents from the highest income group (IDR 9,000,000 or more) but also had the highest percentage of respondents from the lower income group (IDR 1,001,000 to 2,000,000) among the three clusters. In terms of education, Cluster 1 had more respondents with high school education compared to other clusters. Cluster 1 had the highest percentage of respondents who used either or both a motorbike and a car to visit wet markets and hypermarkets. This was related to the fact that Cluster 1 had the highest percentage of respondents who owned a car. Similar to car ownership, there were also significant differences between the three clusters in terms of credit card ownership. More respondents in Cluster 1 owned a credit card, which was higher than Cluster 2 but lower than Cluster 3.

For Cluster 3, more of its respondents purchased fresh food from wet markets, but purchased dry food from hypermarkets. The majority of respondents in Cluster 3 still preferred the wet

market as their primary food retailer, but some considered hypermarkets to be their main food retailer. Some respondents from Cluster 3 also shopped daily or 2-3 times a week at *warungs* for urgent needs. However, significantly more of the respondents in Cluster 3 never shopped at *warungs*, indicating that they fulfilled their food needs by cross-shopping between traditional wet markets and hypermarkets. Cluster 3 had the highest percentage of mature aged respondents 25-54 years old. Cluster 3 also had the highest percentage of respondents with higher education and the highest percentage of respondents who owned a credit card. Similar to Cluster 1, Cluster 3 had more respondents in the highest income group of IDR 9,000,000 or more. In terms of monthly food expenditure, Cluster 3 had more respondents with high monthly food expenditure (more than IDR 1,500,000) compared to Cluster and Cluster 2. Cluster 3 splits their monthly food expenditure between traditional wet markets and hypermarkets and supermarkets. Many of the respondents in Cluster 3 used either a motorbike or a car to travel to wet markets and hypermarkets, but the percentages were less than those in Cluster 1 because some respondents in Cluster 3 also walked or used public transport to go shopping.

8.7 Summary and conclusion

This study confirmed multiple store patronage (cross-shopping behaviour) among the shoppers, as most respondents visited a variety of traditional and modern food stores. The reasons to patronise different food stores demonstrate an indication of complementary function between main and secondary stores, such as the opening times (wet markets open and close earlier than modern retailers) and product categories (dry foods and fresh food). The complementary function in product categories was confirmed by consumers' tendency for selective adoption, where they purchased fresh food from traditional wet markets and packaged food from hypermarkets/supermarkets.

The food expenditure patterns of respondents in this study confirmed that the two most important food retailers were wet markets and hypermarkets, followed by supermarkets, and in addition, by minimarkets, *warungs* and independent grocers.

This study found that selectives or cross-shoppers (Cluster 3) were the largest group, indicating that everyone seemed interested in the same thing, which was getting the best deal for their food shopping. This selective cluster comprised about half of the respondents. The cross-shoppers also spent a higher proportion of their household income on food, indicating that food shopping was a high involvement activity. The high involvement in food shopping which was identified in this study was also related to the high proportion of income spent for

food in the household. Cluster 3 exhibited a higher tendency to cross-shop mainly between traditional wet markets and hypermarkets, because the respondents from this cluster had the ability (budget) and means (transport) to purchase their fresh and dry food from the best retailer available.

A comparison of socio-demographic factors such as income, education, car and credit card ownership among the three clusters confirmed previous studies from other countries that consumers with higher income and higher education tend to patronise modern food retailers. Cluster 1 (modern shoppers) purchased more food products from hypermarkets but they still purchased some of their fresh food from wet markets, indicating the continuing importance of wet markets in fresh food markets. Cluster 2 (traditional shoppers) relied mainly on traditional markets and *warungs* due to lack of steady income and transportation.

This study also found that the most important determinants for consumers to purchase general food products are 'food quality and safety', followed by 'efficient shopping' and 'competitive price'. This provides an indication that cross-shopping was perceived a strategy for consumers to get quality and safe food efficiently at the most competitive price, which means a combination of buying fresh food from wet markets (weekly) and buying packaged food from hypermarkets (monthly).

Finally, the finding on the role of product category in consumers' choice of retail store identifies a need to compare the determinants of purchase for different product categories (dry food, semi-processed and fresh food) based on the three-step model of modern retailer expansion. This will be explored further in the next chapter.

CHAPTER 9

DETERMINANTS OF CROSS-SHOPPING BEHAVIOUR FOR TRADITIONAL WET MARKETS AND MODERN FOOD RETAILERS FOR COOKING OIL, CHICKEN AND KANGKONG

9.1 Introduction

This chapter addresses the third research objective, which is to identify whether the determinants of cross-shopping behaviour between traditional wet markets and modern retail stores are the same across food product categories (processed foods, fresh chicken meat and freshvegetables). Firstly, it compares the factor means for each product (cooking oil, chicken meat and kangkong) based on the five constructs identified in the previous chapter for food products in general (Section 9.2). Secondly, it identifies the store determinants of cross-shopping for the three product categories: cooking oil which represents dry food; fresh chicken meat which represents semi-processed food (fresh meat); and fresh kangkong which represents fresh food (produce) (Section 9.3). Thirdly, it identifies the product attribute determinants of cross-shopping for the three product categories (Section 9.4). The determinants of purchasing the three product categories under study will be discussed (Section 9.5) and conclusions will be drawn in Section 9.6.

9.2 Comparison of Factor Means for Selected Products

It will be recalled that the factor analysis for food in general (Section 9.4) resulted in a five factor solution which include 'modern retailer characteristics', 'efficient shopping', 'social relationship', 'food quality and safety' and 'competitive price'.

Based on the selected items belonging to each factor (Factor 1 to Factor 5), factor analysis was re-run for each product (cooking oil, chicken and kangkong) to confirm whether the constructs were reliable using the methodology of summated factor promoted by Hair *et al.* (1998). As mentioned in the methodology chapter, the factor was considered reliable if the Cronbach alpha is 0.7. The results are shown in Table 9.1 below.

Table 9.1: Comparisons of means and Cronbach's alpha for each product

Factors	Items	Factor mean and cronbach's alpha	Cooking oil	Chicken	Kangkong
Factor 1:	brand variety	Factor mean	4.933	4.523	4.501
Modern retailer characteristics	product variety special price (discount) shopping points shopping convenience	Cronbach's alpha	0.634	0.772	0.781
Factor 2:	quick payment (check-out)	Factor mean	5.770	5.737	5.747
Efficient shopping	product lay-out in store easy parking service can self-select	Cronbach's alpha	0.674	0.620	0.602
Factor 3:	know the seller personally	Factor mean	4.283	4.320	4.333
Social relationship	meet neighbours/friends support small traders	Cronbach's alpha	0.710	0.703	0.695
Factor 4:	honesty of the seller	Factor mean	5.890	5.875	5.886
Food quality and safety	food safety	Cronbach's alpha	0.900	0.809	0.869
Factor 5:	competitive price	Factor mean	5.20	5.14	5.07
Competitive price					

Factor 1 (modern retailer characteristics) was found to be reliable for chicken meat and kangkong, but was not reliable for cooking oil. Factor 2 (efficient shopping) was not reliable for all three products. Factor 3 (social relationship) was found to be reliable for all three

products but it was the least important of the five factors. Factor 4 (food quality and safety) was the most reliable construct for all three products and was also the most important with the highest means for all three products. This indicates that consumers' concern for food quality and safety were consistent across all categories. Similarly, Factor 5 (competitive price) was an important consideration for all three products. As the five constructs, based on food in general, were not consistent across the three products, a separate exploratory factor analysis was conducted for each product category (cooking oil, chicken and kangkong).

9.3 Factor analysis and ANOVA for store attribute determinants for the product categories

Exploratory factor analysis was conducted on the store attributes for each product category, which resulted in five factors for cooking oil, four factors for fresh chicken meat and four factors for fresh kangkong. For each product category, the resultant factors were constructed and saved using the methodology prescribed by Hair *et al*. (1998). One-way ANOVA was then undertaken to identify any significant differences between the means of each construct for the three previously identified clusters.

9.3.1 Factor analysis for store attributes of cooking oil

Five constructs emerged for the store attribute determinants for cooking oil which collectively accounted for 62% of the total variance (Table 9.2). The KMO measure of sample adequacy was 0.842, which was considered to be 'great' (Field 2009). Bartlett's test of sphericity showed the value of 3980.955 which was significant ($p < .05$).

Factor 1, which explained 18% of the variance, was comprised of six items. Discount price, clear price tag and variety (type of oil) were considered important in the purchase of processed/dry food such as cooking oil. Other variables (attractiveness of the store, comfortable/air conditioned environment and shopping convenience) were associated with modern food retailers. Given that modern retailers offered a wide range of different cooking oils and periodically offered price discounts as a way of enticing consumers to enter their stores, this factor was labelled as 'modern retailer characteristics'. With a Cronbach's alpha of 0.764 the factor was considered reliable, and with a factor mean of 5.477 it was one of the more important variables in the consumers' decision to purchase cooking oil.

Table 9.2: Factor analysis results for store attributes of cooking oil

Reduced set of variables for store attributes of cooking oil	Varimax-rotated loadings[a]				
	Factor				
	1	2	3	4	5
Special price (discount)	.721				
Clear price tag	.692				
Attractiveness of the store	.680				
Comfortable (AC)	.672				
Product variety	.606				
Shopping convenience	.606				
Quick payment (check out)		.778			
Product lay-out in store		.698			
Relaxing/looking around with family/friends		.633			
Easy parking (parking facility)		.606			
Eating places/ restaurants		.486			
Know the seller personally			.817		
Meet neighbours/ friends			.790		
Can support small trader			.726		
Honesty/goodwill of the seller				.907	
Safety				.883	
Competitive price					.914
Eigen value	5.087	1.664	1.584	1.162	1.051
Percent variance	18.31	14.34	11.91	10.87	6.61
Cumulative variance	18.31	32.66	44.57	55.44	62.05
Cronbach's alpha	0.764	0.699	0.710	0.900	-
Factor mean	5.477	5.471	4.283	5.890	5.200

[a] Factor loadings less than 0.40 have not been printed and variables have been sorted by loadings on each factor

Factor 2 explained a further 14% of the variance and was comprised of five items. Quick payment, product lay-out and easy parking indicated consumers' desire for efficient shopping. At the same time, consumers also considered such aspects as relaxed shopping environment and the availability of eating places. Therefore, Factor 2 was labelled as 'one-stop shopping'. One-stop shopping is one of the strengths of the large shopping malls for these provide facilities for entertainment and socializing. With a Cronbach's alpha of 0.699, this factor was considered reliable and with a factor mean of 5.471, it was an important consideration in the purchase of cooking oil.

Factor 3 explained 12% of the total variance and was comprised of three items. Consistent with the results for food in general, this factor captured consumers' need to know the seller personally, to meet their neighbours and friends, and to support local small traders. This construct was labelled as 'social relationships'. Here the trust between consumers and vendors was important to provide a guarantee of quality and safety for some consumers because most cooking oil sold in the traditional wet markets in Indonesia (80%) was sold in bulk (unbranded). With a Cronbach's alpha of 0.71, this construct was considered reliable, but with a factor mean of only 4.30, it was the least important factor in the consumers' choice of retail store for the purchase of cooking oil.

Factor 4 explained 11% of the total variance and was comprised of two items. It captured the honesty/goodwill of the retailer and was considered important to guarantee the quality and safety of the cooking oil. This factor was related to problems such as food adulteration and the mixing of used and new cooking oil in Indonesia. Hence it was labelled as 'food quality and safety'. This factor was considered very reliable (with a Cronbach's alpha of 0.900) and was the most important construct (factor mean of 5.890) in the consumers' decision to purchase cooking oil.

Factor 5 explained 7% of the total variance. It was comprised of only one item and was labelled accordingly as 'competitive price'. Despite the high level of household consumption, with a factor mean of 5.20, this factor was of moderate importance in the consumers' decision to purchase cooking oil.

9.3.2 One-way ANOVA for store attributes of cooking oil

One-way analysis was used to assess differences in the factor means for store attributes of cooking oil between the three clusters previously identified. ANOVA showed significant differences between the clusters for all five factors (Table 9.3).

Table 9.3: Mean scores for each factor for store attributes of cooking oil based on cluster

Five factors identified for store attributes of cooking oil	Factor components	Mean scores[a]		
		Cluster 1	Cluster 2	Cluster 3
Factor 1: Modern retailer characteristics	special price (discount) clear price tag attractiveness of the store comfortable (AC) product variety shopping convenience	5.507[b]	4.393[a]	5.867[c]
Factor 2: One-stop shopping	quick payment (check out) product lay-out in store relaxing/looking around with family/friends easy parking eating places (restaurants)	5.257[b]	4.793[a]	5.859[c]
Factor 3: Social relationship	know the seller personally meet neighbours/friends support small traders	3.080[a]	3.917[b]	5.078[c]
Factor 4: Food quality and safety	honesty/goodwill of the seller food safety	5.882[b]	5.777[a]	5.991[c]
Factor 5: Competitive price	competitive price	5.018[b]	4.642[a]	5.525[c]

[a] Those items with the same superscripts are not significantly different at p=0.05.

For the selective shoppers (Cluster 3), the means were significantly higher for all five factors, indicating that they were highly involved shoppers. Food quality and safety was the most important factor in their decision to purchase cooking oil, due to the many health issues that had arisen from the adulteration of cooking oils. The role of the modern retailers in selling cooking oil was seen from two factors: modern retailer characteristics and one-stop shopping. Cooking oil was perceived to be an expensive product, so competitive price was considered important but was nevertheless ranked lower than price discount and a clear price

tag which were components of the modern retailer (Factor 1). The importance of a clear price tag, price discount and product variety in Factor 1 suggests that selective shoppers want to make price comparisons between products on the shelf to suit their budget and to avoid paying more than what they expect to at the check-out, since few consumers have access to credit cards.

Cluster 2 (traditional shoppers), on the other hand, recorded the lowest mean scores among the three clusters for all factors, except Factor 3 (social relationship). The low scores were an indication that these shoppers had some limitations such as they could not or did not want to travel far, so they purchased from nearby stores. Traditional shoppers also valued food quality and safety the highest because in the traditional markets, as the majority of cooking oil was sold in bulk, there was a greater likelihood that the oil had been adulterated. One-stop shopping was considered very important, as this cluster purchased the majority of their food from traditional markets. However, for the members of the traditional cluster, competitive price was considered more important than a price discount or a clear price tag, because they mostly purchased bulk cooking oil. Not unexpectedly, Cluster 2 valued their social relationship with their preferred retailer as a means of guaranteeing the quality and safety of bulk cooking oil.

Cluster 1 (modern shoppers) recorded medium scores for all the factor means for cooking oil, except for Factor 3 (social relationship) which was the lowest among the three clusters. This suggested that this cluster purchased most of their cooking oil from modern retailers. Similar to the other two clusters, Cluster 1 valued food quality and safety the highest. Similar to the selective shoppers (Cluster 3), modern retail shoppers also viewed modern retailer characteristics and one-stop shopping as important factors. As the members of Cluster 1 purchased the majority of their cooking oil from modern retailers as a means of assuring product quality and safety, there was little need to rely on any personal relationship with small traders. Cluster 1, however, viewed competitive price as being less important, presumably because they purchased branded cooking oil in large volumes at a discount price from modern retailers. For them, a personal relationship with vendors was not important, for quality in this instance was assured by the brand of cooking oil purchased.

9.3.3 Factor analysis for store attributes of chicken meat

Arising from an exploratory factor analysis of the 40 store-related variables for fresh chicken meat, four constructs emerged that collectively explained 62% of the total variance (Table 9.4). The KMO measure of sample adequacy was 0.823, which was considered ‘great’

(Field 2009) and the Bartlett's test of sphericity showed a value of 3649.911 which was significant at $p < .05$.

Factor 1 explained 17% of the total variance and was comprised of four items. Food safety was important for high risk food products such as fresh meat. To provide an additional assurance, respondents relied upon the honesty/goodwill of the retailer. Chicken meat is one of the higher price foods in Indonesia because consumers have to spend more of the household budget to buy meat in relation to the amount spent to purchase fish, rice and vegetables. Therefore, consumers considered value for money as being important. As most consumers purchased live chicken, service was important in terms of slaughtering, cleaning and dressing the carcass, as consumers seldom had the time or the desire to undertake the activities required to prepare a live chicken for consumption. Accordingly, this factor was labelled as 'food safety and value for money'. Factor 1 was very reliable with a Cronbach's alpha of 0.760. It was also the most important variable (factor mean of 5.855) in the consumers' decision to purchase fresh chicken meat.

Table 9.4: Factor analysis for store attributes of chicken meat

Reduced set of variables for store attributes of chicken meat	Varimax-rotated loadings[a]			
	Factor			
	1	2	3	4
Safety	.863			
Honesty/goodwill of the seller	.822			
Value for money/suitable price	.704			
Service	.703			
Brand variety		.822		
Product variety		.772		
Shopping points or membership		.713		
Special price or discount		.706		
Product lay-out in store			.753	
Attractiveness of the store			.703	
Relaxing/looking around with family/friends			.697	
Shopping convenience			.646	
Know the seller personally				.820
Meet neighbours/friends				.747
Can support small trader				.688
Eigen value	4.548	2.430	1.336	1.084
Percent variance	16.954	16.778	15.493	13.424
Cumulative variance	16.954	33.732	49.225	62.649
Cronbach's alpha	0.760	0.795	0.725	0.703
Factor mean	5.855	4.208	5.518	4.320

[a] Factor loadings less than 0.40 have not been printed and variables have been sorted by loadings on each factor

Factor 2 explained a further 17% of the total variance and was comprised of four items. In purchasing chicken meat, consumers considered brand variety and product variety to be important. Brand variety was mostly associated with modern retailers because the chicken in wet markets was sold live or without a brand label. This might be an indication that consumers purchased fresh chicken meat or processed chicken meat such as nuggets and sausages from modern retail outlets. In the absence of slaughter on demand, brand recognition provided an alternative assurance of halal. Two other variables were shopping points (membership) and special price (discount) which were usually associated with modern retailers. Factor 2 for chicken was somewhat similar with Factor 1 (modern retailer characteristics) for food in general and cooking oil in terms of variety, shopping points and price discount. However, for chicken, this factor did not capture the convenience aspects associated with modern retail shopping. For this reason, Factor 2 was labelled as 'variety and discount'. This factor was the most reliable with a Cronbach's alpha of 0.795, but it was not the main consideration for consumers with a factor mean of only 4.208.

Factor 3 for chicken explained 15% of the total variance and was comprised of four items. Product layout in store and shopping convenience captured consumers' need for efficient shopping. The attractiveness of the store and the ability to relax with family and friends was an indication that consumers wanted to enjoy their shopping experience and to socialize with family or friends. This factor was labelled as 'one-stop shopping'. This factor was not only reliable with a Cronbach's alpha of 0.725, but it was also one of the most important variables with a factor mean of 5.518.

Factor 4 for chicken explained 13% of the total variance and was comprised of three items. Knowing the seller personally, meeting neighbours/friends and the desire to support small traders were consistent with the two previous products (food and cooking oil). As this factor captured the importance of social constructs in the consumers' decision to purchase chicken, it was labelled accordingly as 'social relationship'. This factor was reliable with a Cronbach's alpha of 0.703, but was not one of the main determinants in purchasing fresh chicken meat (factor mean of 4.320) from a retail store.

9.3.4 One-way ANOVA for store attributes of chicken meat

A one-way analysis of variance showed significant differences in the factor means for the store attributes of chicken meat between the three shopping clusters (Table 9.5). For the selective shoppers (Cluster 3), the factor means for chicken were significantly higher for all

four factors, indicating that they were highly involved shoppers. This was consistent with the factor means for food in general and for cooking oil.

Cluster 3 valued the factor 'food safety and value for money' highly, followed by 'one-stop shopping'. This was an indication of consumers' concerns for food safety issues such as carrion chicken which is one common problem in traditional markets. According to Dwiatmaja and Rakhmadi (2012) carrion chicken is unhealthy for human consumption because the chicken was dead prior to proper Islamic slaughtering, resulting in undrained blood as a media for germs, bacteria and toxins. Therefore, carrion chicken is unhealthy from both a general human health standard and Islamic religious standard (*syariah/shari'a*), because any harmful substance is considered non halal (unlawful or *haram*). This is supported by other studies, for example, Alhazmi (2013), who stated that Muslim consumers choose to eat halal food because they believe that if something is prohibited by God, it is harmful to human health. Halal food processing has been found to be hygienic and free from harmful substances (Hussain *et al.* 2016), hence halal certified foods are readily accepted by non Muslims such as Jews, Adventists and consumers with food allergies (Leal-Ramos *et al.* 2011).

Other than food safety, 'One-stop shopping' was important for these respondents, but so was the need for a relaxed, social experience. Depending on where the respondent most often purchased fresh chicken meat, this factor could apply equally well to both a traditional retail store or to a modern retail format. However, given the high mean for 'social relationship', this suggested that most respondents still valued the trust and support from traditional vendors to overcome the problems associated with halal certification in purchasing fresh chicken meat.

Table 9.5: Mean scores for each factor for store attributes of chicken based on cluster

Four factors identified for store attributes of chicken	Factor components	Mean scores[a]		
		Cluster 1	Cluster 2	Cluster 3
Factor 1: 'food safety and value for money'	safety honesty/goodwill of the seller value for money/suitable price service	5.812[a]	5.752[a]	5.962[b]
Factor 2: 'variety and discount'	brand variety product variety shopping points special price (discount)	3.975[b]	2.525[a]	4.820[c]
Factor 3: 'one-stop shopping'	product lay-out in store attractiveness of the store relaxing/looking around with family/friends shopping convenience	5.286[b]	4.826[a]	5.876[c]
Factor 4: 'social relationship'	know the seller personally meet neighbours/friends can support small trader	3.162[a]	3.946[b]	5.111[c]

[a] Those items with the same superscripts are not significantly different at p=0.05.

For the traditional shoppers (Cluster 2), the factor means for chicken were generally the lowest except for the 'social relationship' factor. For 'food safety and value for money', the traditional shoppers were not significantly different from the modern shoppers (Cluster 1), indicating that for chicken meat, food safety was a problem in both modern and traditional retailers. Other than food safety, the traditional shoppers also valued 'value for money' because they were aware that chicken was expensive. They also enjoyed 'one-stop shopping' as a way to relax and socialize, and similar to selective shoppers, they valued the 'social relationships' developed in purchasing chicken meat from traditional retailers. For the traditional shoppers, as 'variety and discount' was most often associated with modern retailers, this factor was considered less important.

For the modern shoppers (Cluster 1), the factor means for chicken were mostly medium, except for the 'social relationship' factor which was the lowest among the three clusters. Modern shoppers valued 'food safety and value for money' as highly as the two other clusters. They also valued the 'one-stop shopping' experience that they could benefit from in purchasing fresh chicken meat. The difference between selective and traditional shoppers was that the modern shoppers valued 'variety and discount' higher than the 'social relationships'. This indicates that this cluster purchased some of their chicken meat from modern retailers (fresh and processed) because they were attracted by price discounts and the greater variety of cuts available in modern retail stores.

9.3.5 Factor analysis for store attributes of kangkong

For kangkong, the final factor solution revealed four constructs that collectively explained 61% of the total variance (Table 9.6). The KMO measure of sample adequacy was 0.829 and the Bartlett's test of sphericity showed a value of 3487.649 which was significant at $p < .05$.

Factor 1 explained 19% of the total variance and was comprised of six items. This factor captured consumers' need for convenient and efficient shopping (lay-out, easy parking), a good environment (air conditioned, attractive store) as well as relaxing with their families/friends. It was labelled accordingly as 'one-stop shopping'. This factor was considered to be more indicative of modern retail stores, which suggested that consumers sometimes purchased fresh produce such as kangkong when they visited shopping malls. This factor was reliable with a Cronbach's alpha of 0.752 and was considered very important with a factor mean of 5.443.

Factor 2 explained a further 17% of the total variance. It was comprised of four items and was very similar to Factor 2 for chicken. Factor 2 was labelled as 'variety and discount'. This factor was very reliable with a Cronbach's alpha of 0.808, but it was not a major consideration (factor mean of 4.186) in the consumers' decision to purchase kangkong. Brand variety, shopping points and a discount price were more often associated with modern retailers.

Factor 3 explained 13% of the total variance and was comprised of three items. The three variables: know the seller personally, meet neighbours/friends and support small traders as are related to 'social relationship' hence were labelled accordingly. They were also consistent with the two previous products (cooking oil and fresh chicken meat). This factor

was considered reliable with a Cronbach's alpha of 0.695, but it was not one of the main determinants in purchasing kangkong, with its factor mean being 4.333 only.

Factor 4 explained 12% of the total variance and was comprised of two items. It captured the honesty/goodwill of the vendor as a guarantee of the quality and safety of the produce, as previous studies have shown that kangkong was often found to contain high levels of heavy metals (Prasetyawati 2007) and pesticide residues (Hughes *et al.* 2015). Hence it was labelled as 'food quality and safety'. This factor was very reliable (Cronbach's alpha of 0.869) and was the most important construct in the consumers' decision to purchase kangkong, having a factor mean of 5.886.

Table 9.6: Factor analysis results for store attributes of kangkong

Reduced set of variables for store attributes of kangkong	Varimax-rotated loadings[a]			
	Factor			
	1	2	3	4
Product lay-out in store	.694			
Shopping convenience	.682			
Comfortable (AC)	.670			
Attractiveness of the store	.659			
Relaxing/looking around with family/friends	.632			
Easy parking/parking facility	.562			
Brand variety		.836		
Product variety		.769		
Special price (discount)		.736		
Shopping points or membership		.722		
Know the seller personally			.803	
Meet neighbours/friends			.754	
Can support small trader			.687	
Honesty/goodwill of the seller				.917
Safety				.892
Eigen value	4.703	2.062	1.259	1.187
Percent variance	19.030	17.331	13.380	11.668
Cumulative variance	19.030	36.361	49.741	61.409
Cronbach's alpha	0.752	0.808	0.695	0.869
Factor mean	5.443	4.186	4.333	5.886

[a] Factor loadings less than 0.40 have not been printed and variables have been sorted by loadings on each factor

9.3.6 One-way ANOVA for store attributes of kangkong

One-way analysis of variance ANOVA showed significant differences in the factor means for the store attributes of kangkong between the three clusters (Table 9.7).

For the selective shoppers (Cluster 3), the factor means for all four factors were significantly higher than the other two clusters. For kangkong, the most highly rated factor for this cluster was 'food quality and safety'. 'One-stop shopping' (associated with modern retailers) and 'social relationships' (associated with traditional retailers) were also important, indicating that selective shoppers used both traditional and modern food stores. 'Variety and discount' was only of medium importance for the selective shoppers, because kangkong is relatively cheap in comparison to the other products.

Table 9.7: Mean scores for each factor for store attributes of kangkong based on cluster[a]

Four factors identified for store attributes of kangkong	Factor components	Mean scores[a]		
		Cluster 1	Cluster 2	Cluster 3
Factor 1 'one-stop shopping'	product lay-out in store shopping convenience comfortable (AC) attractiveness of the store relaxing/looking around with family/friends easy parking/parking facility	5.228[b]	4.672[a]	5.833[c]
Factor 2: 'variety and discount'	brand variety product variety special price (discount) shopping points	3.906[b]	2.517[a]	4.823[c]
Factor 3: 'social relationship'	know the seller personally meet neighbours/friends can support small trader	3.174[a]	3.949[b]	5.108[c]
Factor 4: 'food quality and safety'	honesty/goodwill of the seller safety	5.861[b]	5.775[a]	5.987[c]

[a] Those items with the same superscripts are not significantly different at p=0.05.

Cluster 2 (traditional shoppers), on the other hand, gave the lowest ratings for most of the factors, except for the 'social relationships'. 'Food quality and safety' was the most important factor for traditional shoppers. Traditional shoppers also valued 'one-stop shopping', but not to the same extent as the modern and selective clusters. This was probably because they rely on the traditional wet markets and traditional retail stores to purchase the majority of their fresh food. Given that this cluster had the lowest mean for 'variety and discount', this implies that they visit shopping malls primarily to purchase non-food items. Traditional shoppers valued 'social relationships' higher than the modern cluster, indicative of the importance they gave to their established relationship with preferred retailers in the wet markets.

For the modern shoppers (Cluster 1), the mean was high for both 'food safety and quality' as well as 'one-stop shopping'. This implies that modern shoppers mainly visited modern retailers to purchase food, as they viewed modern retailers as the place to buy safe, good quality food. They also valued 'variety and discount' as the strength of modern retailers, but this was not the most important factor in their decision to purchase. This was probably due to the fact that they purchased food regularly from modern retailers and were therefore less influenced by short-term promotional variables such as price discounts. The means for 'social relationship' were lower because this group purchased most of its food from modern retailers.

9.3.7 Comparison of store-attribute determinants

Exploratory factor analysis for the 40 store attributes resulted in different constructs across the three product categories (Table 9.8). Five factors were identified for cooking oil and four factors were identified for both chicken meat and kangkong.

One consistent construct among the three product categories (cooking oil, chicken and kangkong) was the construct regarding food quality and safety, indicating consumer concerns for food safety across categories. This construct consistently came out as Factor 4 for cooking oil and kangkong. A similar construct for safety emerged for fresh chicken meat, but it was mixed with value for money and service. This was probably due to the fact that chicken is considered expensive for the majority of Indonesian consumers so they want the best value for the expense they outlay. Quick/reliable service was important for chicken meat because most consumers have the chicken slaughtered and dressed and do not want to wait long to get their meat. Meanwhile, honesty/goodwill of the seller was more important for chicken meat compared to other categories due to the need for halal assurance.

Table 9.8: Comparison of components of separate factor analysis for the three products

Factors	Cooking oil	Chicken meat	Kangkong
Factor 1	Special price (discount)	Safety	Product lay-out in store
	Clear price tag	Honesty/goodwill of the seller	Shopping convenience
	Attractiveness of the store	Value for money	Comfortable (AC)
	Comfortable (AC)	Service	Attractiveness of the store
	Product variety		Relaxing/looking around with family/friends
	Shopping convenience		Easy parking
Factor 2	Quick payment (check out)	Brand variety	Brand variety
	Product lay-out in store	Product variety	Product variety
	Relaxing/looking around with family/friends	Shopping points (membership)	Special price (discount)
	Easy parking	Special price (discount)	Shopping points (membership)
	Eating places/restaurants		
Factor 3	Know the seller personally	Product lay-out in store	Know the seller personally
	Meet neighbours/friends	Attractiveness of the store	Meet neighbours/friends
	Can support small traders	Relaxing/looking around with family/friends	Can support small traders
		Shopping convenience	
Factor 4	Honesty/goodwill of the seller	Know the seller personally	Honesty/goodwill of the seller
	Safety	Meet neighbours/friends	Safety
		Can support small traders	
Factor 5	Competitive price		

Consumers' consideration about price also shows some consistency across the categories. Cooking oil is considered an expensive item for most Indonesian consumers. For cooking

oil, special price (discount) emerged as the first item in Factor 1 due to the regular price discounts offered by modern retailers to attract buyers. For chicken and kangkong, special price emerged in Factor 2, indicating that consumers enjoyed the variety offered by modern retailers and they might purchase chicken and kangkong when they browse the shelves or when it is available at a discount price. Price wars on dry/packaged food between retailers (Data Consult 2003 cited in KPMG 2006) had led consumers to view competitive price as a single item for cooking oil, but not for chicken and kangkong. For most Indonesians, chicken meat is expensive so the price is high most of the time, while for kangkong the price was already considered cheap.

Consumers valued the characteristics of modern retailers across product categories but with different emphasis. For cooking oil, characteristics of modern retailers ('special price', 'product variety', 'shopping convenience', 'attractiveness' and 'comfortable/air condition') were grouped with 'clear price tag' (Factor 1), indicating consumers actually purchased cooking oil from modern retailers. While for both chicken meat and kangkong, the characteristics of modern retailers were grouped in Factor 2 ('special price', 'product variety' and 'brand variety' and 'shopping points'), indicating consumers enjoyed to browse but probably only purchased chicken and kangkong occasionally from modern retailers.

Efficient/quick shopping also came out for all three products with different emphasis. For cooking oil, consumers need a quick check out together with an uncluttered lay-out, a relaxed shopping environment and easy parking (Factor 2). For this reason they were more likely to visit modern retailers to shop for dry/packaged foods. For chicken, quick payment was a less important factor: consumers were more concerned about a more competitive price. However, the efficient shopping construct was comprised of product-lay out and combined with attractiveness, a relaxed shopping environment and shopping convenience. Similar to chicken, for kangkong, product lay-out was also combined with shopping convenience, a comfortable environment (air conditioning), attractiveness of the store, relaxing and easy parking. This suggests that consumers mainly went to shopping malls to look around with family/friends, and they purchased chicken meat and kangkong occasionally when they are browsing in the store.

Across the three product categories, only one construct was similar. Social relationship consistently comprised of three items: know the seller personally, meet neighbours/friends and supporting small traders. This construct demonstrates the role of traditional food retailers for consumers. Traditional retailers mostly provide fresh food such as chicken meat and kangkong, and some processed/packaged food such as bulk cooking oil.

To complement the understanding of the variables underlying consumer preferences for store attributes, the next section will discuss the product attributes for the three product categories.

9.4 Factor analysis and ANOVA for product-attribute determinants

Exploratory factor analysis was conducted for the product attributes of each product category. This resulted in three factors for cooking oil, four factors for fresh chicken meat and three factors for fresh kangkong. The resultant factors were then compared using one-way ANOVA to identify any significant differences in the means for each construct for each of the three previously identified clusters.

9.4.1 Factor analysis for product attributes of cooking oil

Exploratory factor analysis was conducted with the 15 product-related variables for cooking oil. In the final factor solution, three constructs emerged for cooking oil that collectively explained 71% of the total variance (Table 9.9). The KMO measure of sample adequacy was 0.784, which was considered to be 'good' (Field 2009). Bartlett's test of sphericity showed a value of 3382.890 which was significant ($p < .05$).

Factor 1, which explained 31% of the variance, was comprised of four items considered important in the purchase of cooking oil. These are product-related attributes of smell, freshness, taste and nutritious. As smell, taste and nutritional value are derived from the state of freshness of cooking oil, this factor was labelled as 'freshness'. With a Cronbach's alpha of 0.885, this factor was considered reliable. Moreover, with a factor mean of 5.275, it was considered important in the consumers' decision to purchase cooking oil.

Table 9.9: Factor analysis results for cooking oil product attributes

Reduced set of variables for cooking oil product attributes	Varimax-rotated loadings[a]		
	Factor		
	1	2	3
Smell	.888		
Freshness	.876		
Taste/flavour	.872		
Nutritious	.805		
Product cleanliness		.836	
Product is healthy		.786	
Product is safe to be consumed		.784	
Purity		.585	
Brand			.876
Packaging			.868
Eigen value	3.804	1.874	1.393
Percent variance	30.784	23.813	16.108
Cumulative variance	30.784	54.597	70.705
Cronbach's alpha	0.885	0.716	0.711
Factor mean	5.275	5.876	4.888

[a] Factor loadings less than 0.40 have not been printed and variables have been sorted by loadings on each factor

Factor 2, which explained 24% of the total variance, was comprised of four items. Consumers consider cleanliness and purity of cooking oil in determining whether it is healthy and safe to be consumed. This factor was then labelled as 'healthy and safe'. With a Cronbach's alpha of 0.716 this factor was reliable and was the most important variable in the consumers' decision to purchase cooking oil, with a factor mean of 5.876.

Factor 3 explained 16% of the total variance and was comprised of two items. Other than attributes such as smell and cleanliness of cooking oil, consumers also relied on brand and packaging in making their decision to purchase. This factor was labelled accordingly as

'brand and packaging', which captured the role of modern retailers in providing branded packaged cooking oil. This factor was reliable with a Cronbach's alpha of 0.711, but was only moderately important for consumers in purchasing cooking oil, with a factor mean of 4.888. This lower mean was probably related to the fact that some consumers purchased bulk, unbranded cooking oil from traditional retailers.

9.4.2 One-way ANOVA for product attributes of cooking oil

For the product attributes of cooking oil, one-way analysis of variance showed significant differences in the factor means between the three clusters for all three factors (Table 9.10).

Table 9.10: Mean scores for each factor for cooking oil product attributes based on cluster

Three factors identified for cooking oil product attributes	Factor components	Mean scores[a]		
		Cluster 1	Cluster 2	Cluster 3
Factor 1: 'freshness'	smell freshness taste/flavour nutritious	5.006[b]	4.237[a]	5.794[c]
Factor 2: 'healthy and safe'	product cleanliness product is healthy product is safe to be consumed purity	5.885[b]	5.728[a]	5.959[c]
Factor 3: 'brand and packaging'	brand packaging	5.318[c]	3.945[a]	4.932[b]

[a] Those items with the same superscripts are not significantly different at p=0.05.

For the selective shoppers (Cluster 3), the means were significantly higher for Factor 1 and Factor 2, indicating their high involvement in food shopping. Consistent with previous store-attribute determinants, Cluster 3 perceived 'healthy and safe' (Factor 2) as the most important characteristic for cooking oil. Related to 'healthy and safe', Cluster 3 also perceived 'freshness' (Factor 1) as being very important to guarantee that the cooking oil they purchased was healthy and nutritious. Factor 3 ('brand and packaging') was of medium

importance for Cluster 3, with a factor mean of 4.93. While this indicated that selective shoppers often relied upon the brand and packaging to provide an additional assurance of quality, they were willing to switch brands to purchase cooking oil when it was offered at a discount price. It also indicated that when purchasing from traditional retailers, they would look for a preferred brand where it was available, rather than purchase a generic unbranded cooking oil.

The traditional shoppers (Cluster 2), on the other hand, recorded the lowest mean scores among the three clusters for all factors. The low mean scores for the product attributes were consistent with the low scores for the store attributes, which indicated that due to some limitations, these shoppers compromised their preferences for cooking oil. Consistent with their high scores for quality and safety in the store attributes, traditional shoppers also rated 'healthy and safe' (Factor 2) as the highest, because they purchased bulk cooking oil from traditional markets which had a greater likelihood of being adulterated. Traditional shoppers valued 'freshness' (Factor 1) much lower because they were aware that bulk cooking oil was of lower quality (smell, freshness, flavour, nutritious) compared to packaged cooking oil. This cluster also valued 'brand and packaging' (Factor 3) the lowest because they mostly purchased cooking oil in bulk from traditional retailers.

Cluster 1 (modern shoppers) recorded medium scores for all the factor means for cooking oil, except for Factor 3 ('brand and packaging') which was the highest among the three clusters. Consistent with their scores for store attributes, this high score for brand and packaging indicated that Cluster 1 purchased most of their cooking oil from modern retailers. Similar to the other two clusters, Cluster 1 valued 'healthy and safe' (Factor 2) highly, which supported their choice of purchasing packaged and branded cooking oil which was considered healthier and safer than bulk cooking oil. Modern shoppers also valued 'freshness' (Factor 1) as an important variable and consequently they purchased higher quality packaged cooking oil from modern retailers which was considered to be better in smell, freshness, taste and nutrition.

9.4.3 Factor analysis for product attributes of chicken meat

For chicken meat, exploratory factor analysis produced four constructs that collectively explained 73% of the total variance (Table 9.11). The KMO measure of sample adequacy was 0.818, which was considered to be 'great' (Field 2009). Bartlett's test of sphericity showed a value of 2921.695 which was significant ($p < .05$).

Factor 1 explained 31% of the total variance and was comprised of five items. This factor captured consumers' concerns about the health and safety of the chicken meat. Consumers tried to reassure themselves by looking at the cleanliness and smell of the chicken they intended to purchase. Other than that, if the live chicken was in a good/healthy condition prior to slaughter, it was also perceived as being safe to consume. This factor was labelled accordingly as 'healthy and safe'. With a Cronbach's alpha of 0.721, this factor was not only reliable but was also the most important variable in consumers' decision to purchase chicken meat, with a factor mean of 5.816.

Table 9.11: Factor analysis results for chicken product attributes

Reduced set of variables for chicken product attributes	**Varimax-rotated loadings[a]**			
	Factor			
	1	**2**	**3**	**4**
Product is healthy	0.901			
Product is safe to be consumed	0.897			
Product cleanliness	0.840			
Nutritious	0.703			
Smell	0.609			
Freshness		0.822		
Purity		0.819		
Colour		0.682		
Brand			0.863	
Packaging			0.833	
Product of origin is clear				0.996
Eigen value	4.098	1.862	1.066	1.007
Percent variance	30.692	18.507	14.646	9.184
Cumulative variance	30.692	49.199	63.844	73.029
Cronbach's alpha	0.721	0.695	0.725	-
Factor mean	5.816	5.536	3.172	4.20

[a] Factor loadings less than 0.40 have not been printed and variables have been sorted by loadings on each factor

Factor 2 explained a further 19% of the total variance and was comprised of three items. This factor showed that consumers perceived the freshness of chicken meat as being important because fresh meat is perishable. To get fresh chicken meat, consumers either opted for slaughter on the spot if available, or checked for purity (i.e., not injected with water or mixed with left-over meat) and the colour of the chicken carcass/meat. This factor was labelled as 'freshness'. This factor was considered reliable with a Cronbach's alpha of 0.695 and was very important (factor mean of 5.536) in the consumers' decision to purchase chicken meat.

Factor 3 for chicken meat explained a further 15% of the total variance and was comprised of two items (brand and packaging). This factor was reliable with a Cronbach's alpha of 0.725 and was labelled accordingly as 'brand and packaging'. However, the factor mean was very low (3.172), indicating that brand and packaging was not a major consideration in consumers' decision to purchase fresh chicken meat. Fresh chicken meat sold in traditional retailers (wet market stalls, *warungs* or independent chicken slaughter houses) generally has no label or brand attached. The dressed chicken carcass was cut into pieces and put into plastic bags. On the other hand, chicken meat sold in modern retailers (whole and pieces) were usually put in a styrofoam tray and covered with cling wrap plastic with the retailer's brand/logo on the package.

Factor 4 for chicken meat explained 9% of the total variance and was comprised of a single item (origin of the product is clear). This factor indicated that consumers want to know where the chicken meat that they intend to buy has come from as one way of guaranteeing food quality and safety. This factor was labelled as 'product origin'. However, this factor was not the most important variable with a factor mean of 4.20. The low importance might be related to the fact that when consumers purchased chicken meat, they preferred to check the condition of the live chickens prior to slaughtering on the spot. When this option was not available, they relied on personal trust when purchasing from traditional vendors or on brands when purchasing from modern retail outlets.

9.4.4 One-way ANOVA for product attributes of chicken meat

For chicken meat, one-way analysis of variance ANOVA showed significant differences in the factor means between the three clusters for Factors Two and Three (Table 9.12). For Factor 1, the factor means between Cluster 1 and Cluster 2 were not significantly different,

but Cluster 3 was significantly higher than the two other clusters. For Factor 4, the means of the three clusters were not significantly different.

Table 9.12: Mean scores for each factor for chicken product attributes based on cluster[a]

Four factors identified for chicken product attributes	Factor components	Mean scores		
		Cluster 1	Cluster 2	Cluster 3
Factor 1 'healthy and safe'	product is healthy product is safe to be consumed product cleanliness nutritious smell	5.763[a]	5.772[a]	5.943[b]
Factor 2 'freshness'	freshness purity colour	5.463[b]	5.018[a]	5.819[c]
Factor 3 'brand and packaging'	brand packaging	3.212[b]	2.578[a]	4.008[c]
Factor 4 'product of origin'	product of origin is clear	4.261[a]	3.970[a]	4.113[a]

[a] Those items with the same superscripts are not significantly different at p=0.05.

For the selective shoppers (Cluster 3), the factor means for chicken meat were significantly higher for Factor 1, Factor 2 and Factor 3, but not significantly different for Factor 4. The high scores for most of the product attribute determinants indicated that these were highly involved shoppers. This was consistent with the factor means for the store attribute determinants. The selective shoppers valued 'healthy and safe' (Factor 1) as the most important factor due to problems regarding the health and safety of chicken meat sold in both modern and traditional retailers. Related to this variable, selective shoppers also valued 'freshness' (Factor 2) highly because if the chicken were fresh, the health and safety issues associated with the meat could be minimized. Although selective shoppers valued food safety and freshness as important, they valued 'product origin' (Factor 4) as less important, because they did not always ask or receive information about the source of the chicken meat.

Selective shoppers also viewed 'brand and packaging' (Factor 3) as less important, but their scores were still significantly higher than those buyers in the modern and traditional clusters, indicating that they purchased some of their chicken meat from modern retailers.

The traditional shoppers (Cluster 2) recorded the lowest factor means for chicken meat for Factor 2 ('freshness') and Factor 3 ('brand and packaging'). This indicated that due to either mobility or economic limitations, traditional shoppers purchased unpacked/unbranded chicken meat from traditional retailers close to their homes. Freshness was still considered important for traditional shoppers, but in the absence of any refrigeration, previously slaughtered chicken/chicken cuts were considered less fresh than live chicken slaughtered on the spot. As traditional shoppers mostly purchased chicken cuts without checking the live chicken or witnessing the slaughtering process, they valued 'healthy and safe' (Factor 1) as the most important variable. Similar to selective and modern shoppers, traditional shoppers viewed 'product origin' (Factor 4) as less important in purchasing chicken meat.

The modern shoppers (Cluster 1) recorded medium scores for 'freshness' (Factor 2) and 'brand and packaging' (Factor 3). They valued 'healthy and safe' as the most important variable which influenced their decision to purchase packaged chicken meat from modern retailers which were considered to be more clean. 'Freshness' (Factor 2) was also considered important, but the concept of freshness for modern retailers was related to refrigerated storage rather than slaughter on the spot. Similar to the other clusters, 'product origin' (Factor 4) was considered less important. 'Brand and packaging' (Factor 3) was considered less important for modern shoppers, but was still rated higher than the mean for traditional shoppers. This is probably due to modern shoppers valuing the label and packaging as part of the modern retailers' store image.

9.4.5 Factor analysis for product attributes of kangkong

For kangkong, exploratory factor analysis revealed four constructs that collectively explained 75% of the total variance (Table 9.13). The KMO measure of sample adequacy was 0.764, which was considered to be 'good' (Field 2009). Bartlett's test of sphericity showed a value of 2009.472 which was significant ($p < .05$).

Table 9.13: Factor analysis results for kangkong product attributes

Reduced set of variablesfor kangkong product attributes	Varimax-rotated loadings[a]		
	Factor		
	1	2	3
Product is healthy	0.885		
Product is safe to be consumed	0.812		
Product cleanliness	0.811		
Freshness	0.789		
Brand		0.889	
Packaging		0.869	
Taste/flavour			0.861
Colour			0.833
Eigen value	3.476	1.458	1.073
Percent variance	35.523	19.914	19.647
Cumulative variance	35.523	55.437	75.084
Cronbach's alpha	0.861	0.726	0.699
Factor mean	5.864	2.875	5.778

[a] Factor loadings less than 0.40 have not been printed and variables have been sorted by loadings on each factor

Factor 1 for kangkong explained 36% of the total variance and was comprised of four items. From the consumers' perspective, kangkong is a fresh leafy vegetable that should be healthy and safe as indicated by its cleanliness and freshness. This factor was labelled as 'health and freshness'. This factor was not only very reliable (Cronbach's alpha of 0.861), but was also the most important variable in the consumers' decision to purchase kangkong (Factor mean of 5.864).

Factor 2 explained a further 20% of the total variance and was comprised of two items (brand and packaging). This factor was reliable with a Cronbach's alpha of 0.726, but was of least importance in consumers' decision to purchase fresh kangkong, with a factor mean of 2.875. Similar to fresh chicken meat, kangkong was sold in traditional wet markets and

warungs in loose bunches: it was neither wrapped nor labelled. In modern retailers, kangkong bunches were usually wrapped in plastic and labelled with the store brand.

Factor 3 explained a further 20% of the total variance and was comprised of two items (taste/flavour and colour). This factor showed that consumers perceived a good taste to be important in making their decision to buy fresh vegetables such as kangkong. As they cannot taste kangkong in a raw condition, they relied upon the physical appearance such as green leaves as an indicator of flavour. Consequently this factor was labelled as 'taste/flavour'. This factor was reliable (Cronbach's alpha of 0.699) and was very important for consumers (factor mean of 5.778) in making their decision to purchase fresh kangkong.

9.4.6 One-way ANOVA for product attributes of kangkong

For kangkong, one-way analysis of variance ANOVA showed significant differences in the factor means between the three clusters for Factor 2 (Table 9.14). For Factor 1 and Factor 3, the factor means for Cluster 1 and Cluster 2 were not significantly different, but the mean for Cluster 3 was significantly higher than the means of the other two clusters.

Table 9.14: Mean scores for each factor for kangkong product attributes based on cluster

Three factors identified for kangkong product attributes	Factor components	Mean scores[a]		
		Cluster 1	Cluster 2	Cluster 3
Factor 1 'health and freshness'	product is healthy product is safe to be consumed product cleanliness freshness	5.833[a]	5.805[a]	5.960[b]
Factor 2 'brand and packaging'	brand packaging	2.951[b]	2.352[a]	3.747[c]
Factor 3 'taste/flavour'	taste/flavour colour	5.749[a]	5.669[a]	5.899[b]

[a] Those items with the same superscripts are not significantly different at p=0.05.

The selective shoppers (Cluster 3) recorded the highest mean scores for all three product attribute factors for kangkong. This was consistent with their high scores for most variables

for cooking oil and chicken meat, indicative of a high level of involvement in food shopping. The selective shoppers valued both 'health and freshness' (Factor 1) and 'taste/flavour' (Factor 3) very highly. In securing the best quality fresh produce, they patronized both modern and traditional retailers. While this cluster rated 'brand and packaging' (Factor 2) significantly higher than the two other clusters, with a mean of 3.75 this variable was least important in the purchase of fresh kangkong. This was an indication that traditional retailers were still the main place of purchase for fresh vegetables, but selective shoppers may occasionally purchase kangkong when they visit modern retailers.

The traditional shoppers (Cluster 2) recorded the lowest mean score for Factor 2 ('brand and packaging'). Given that the majority of the fresh kangkong sold in traditional markets were sold in loose bunches without packaging and branding, this comes as no surprise. However, similar to selective shoppers, the traditional shoppers valued 'health and freshness' (Factor 1) and 'taste/flavour' (Factor 3) highly, but their scores for these factors were not significantly different from Cluster 1 (modern shoppers).

The modern shoppers (Cluster 1) also valued 'health and freshness' (Factor 1) and 'taste/flavour' (Factor 3) highly, similar to other clusters. This was an indication that all three clusters valued health, freshness and taste in purchasing fresh vegetables. Modern shoppers valued 'brand and packaging' significantly higher than traditional shoppers, which suggested that they purchased more of their fresh vegetables from modern retail outlets.

9.4.7 Comparison of product-attributes determinants

The exploratory factor analysis for the 15 product attributes resulted in different constructs across the three product categories but with some consistency (Table 9.15). Four factors were identified for chicken meat and three factors were identified for both cooking oil and kangkong.

Freshness was not only important for fresh food (kangkong) and semi-processed food (chicken meat), but also for dry food — in this case cooking oil. For kangkong, freshness was grouped together with the variables, clean, healthy and safe to be consumed (Factor 1). For chicken meat, freshness was grouped together with purity and colour (Factor 2). This was probably because consumers guarantee the purity of chicken meat, including halal assurance, by selecting slaughter on the spot if possible, or checking the colour of the meat if the chicken had been previously slaughtered and dressed. For cooking oil, as dry/packaged food, freshness means that the cooking oil still smelt good and therefore it was expected to

taste good (Factor 1). Advertising campaigns for branded cooking oil has led some consumers to believe that freshness was related to the nutritional aspects of cooking oil.

Table 9.15: Comparison of components of separate factor analysis of product attributes for the three products

Factors	Oil	Chicken	Kangkong
Factor 1	Smell Freshness	Product is healthy Product is safe to be consumed	Product is healthy Product is safe to be consumed
	Taste/flavour Nutritious	Product cleanliness Nutritious Smell	Product cleanliness Freshness
Factor 2	Product cleanliness Product is healthy Product is safe to be consumed Purity	Freshness Purity Colour	Brand Packaging
Factor 3	Brand Packaging	Brand Packaging	Taste/flavour Colour
Factor 4		Product of origin is clear	

Consumers' concern about food health and safety was also consistent across product categories. For all three products these two variables were grouped in one factor with cleanliness. This demonstrates that cleanliness is a requirement for healthy and safe food. For chicken meat, healthy, safe and clean was an indication that the meat was of good quality and nutritious. However, in the absence of refrigeration, as fresh chicken meat deteriorates rapidly in the tropical heat, consumers had to check the smell of the meat to reassure them of the quality. This is in line with Moser, Raffaelli and Thilmany (2011) who suggested that smell and visual attributes are among the most important organoleptic criteria in selecting food. For cooking oil, healthy, safe and clean was related to the purity of oil, due to the widespread practice of blending bulk cooking oil. For the purchase of fresh vegetables, even though fresh vegetables was considered to have less safety risk compared to fresh meat (Chamhuri and Batt 2013b), a pathogen contamination issue from poultry manure

was identified on fresh vegetables in Malaysia (Chai *et al.* 2009). In this study, consumers prefer to purchase kangkong which was clean and fresh as an indicator of health and safety.

Taste/flavour emerged as major factors for cooking oil and kangkong. For cooking oil, consumers believed that the cooking oil would taste good if it was fresh and they checked the smell especially for bulk cooking oil. For kangkong, consumers believed that the green colour of the leaves was an indication of the taste when it was cooked. For chicken meat, however, taste/flavour did not emerge among the variables in the factor solution. This was probably because consumers were focusing more on evaluating if the chicken meat was healthy and safe (by checking the cleanliness and smell) and if the meat was fresh (by checking the colour of the meat), due to health and halal issues regarding fresh meat. If the chicken meat was healthy and fresh they could assume that it would taste good.

Brand and packaging consistently emerged together as one factor across all three product categories (Factor 3 for cooking oil and chicken, and Factor 2 for kangkong). These variables were mostly associated with modern retailers (hyper/supermarkets), so the emergence of this factor was indicative of the expanding role of modern retailers in food shopping.

Product origin emerged as a single variable for chicken meat (Factor 4) but not for cooking oil or kangkong. It is likely that consumers concern about the origin of chicken meat is due to health and halal problems arising from the importation of chicken meat without a halal certificate or mixed with pork meat (in modern retailers) and issues such as carrion chicken (in traditional retail stores).

9.5 Discussion

The previous chapter identified five constructs (modern retailer characteristics, efficient shopping, social relationships, food quality and safety, and competitive price) as the store attributes underpinning consumers' decision to purchase food products from a retail store. Within the context of this study, the initial 40 store included attributes that were characteristic of both modern and traditional food retailers, and the underlying factors were assumed to be the determinants of consumers' cross-shopping behaviour.

In this chapter, the five constructs for food products in general were applied to each product category: processed food (cooking oil), semi-processed (fresh chicken meat) and fresh food

(fresh kangkong), based on the types of products captured by modern retailers according to the theory of modern retail diffusion in developing countries.

The three-step model of supermarket diffusion in the developing countries (Reardon, Timmer and Minten 2012; Tessier 2010; Goldman, Ramaswami and Krider 2002) has been observed to proceed along three different axes of diffusion (socio-economic, geographic and product category diffusion), and among these axes, product category diffusion is the most challenging for modern food retailers (Kelly *et al.* 2015).

In terms of product category diffusion, Reardon, Timmer and Minten (2012) proposed that, modern retailers will first capture processed foods, followed by semi-processed foods and finally fresh produce. However, according to Kelly *et al.* (2015), modern retailers experience difficulties in dominating the fresh food sector (meat, fruit and vegetables), and among the obstacles are the perception of inferior freshness of produce sold by modern retailers, and cultural and social values associated with traditional fresh food markets. This study provides insight on the theory of product category diffusion by exploring and comparing determinants (constructs) underlying consumers decision to purchase three distinct food categories.

Among the five constructs examined in this study, three constructs (food quality and safety, competitive price and social relationship) were consistent across the three product categories. However, two other constructs (efficient shopping and modern retailer characteristics) were not consistent. This was an indication that the store attributes of modern retailers and the concept of efficient shopping varies between product categories.

The three constructs (food quality and safety, competitive price and social relationship) identified in this study were consistent with previous study. Jayasankaraprasad and Kathyayani (2014) similarly identified that for food and grocery products, price is one significant factors influencing cross-shopping, and consumers value bargaining, discounts and promotional offers in purchasing food. Social relationship was also identified as important factor due to the intention to support local communities. Related to the construct of efficient shopping, Jayasankaraprasad and Kathyayani (2014, p. 107) identified a construct of 'value for time' as an important determinant for cross-shopping. These findings confirm that consumers are highly concerned about their time due to work and family commitment.

Jayasankaraprasad and Kathyayani (2014) identified the nature of their study which was non-product specific as a limitation, and suggested that future research studies consumers' cross-shopping for specific product category. This study made an improvement in this regard by selecting three specific food categories based on the theory of supermarket category diffusion.

To further evaluate differences in consumers' perceptions of the store attributes between product categories, separate factor analysis was conducted for the initial 40 store attributes for each product category (cooking oil, fresh chicken meat and fresh kangkong). The factor analysis resulted in five factors for cooking oil, four factors for fresh chicken meat and four factors for fresh kangkong. Separate factor analysis was also conducted for the initial 15 product attributes for each product category, resulting in three factors for cooking oil and kangkong, and four factors for chicken meat.

Regarding the store attributes, one construct ('social relationship') was consistent across all three product categories, indicating the role of traditional retailers in food shopping. Two other constructs based on food in general ('food quality and safety' and 'competitive price') also emerged for specific food categories, but with slightly different item combinations within the constructs which seemed to be associated with the characteristics of each product. According to Tessier (2010), quality attributes could be interpreted differently depending on the product type they refer to. In this study, for example, quick service was important for chicken meat to guarantee the safety because many consumers preferred the live chicken to be slaughtered on the spot. Consumer preference for 'slaughter on-the-spot' was also identified in other countries such as Albania (Zhllima, Imami and Canavari 2015), where most consumers purchased lamb meat from trusted butchers and half of the consumers preferred the meat to be slaughtered at the point of purchase. For cooking oil, 'price discount' was more prominent and 'competitive price' emerged as one construct due to modern retailers' strategy to attract buyers with regular monthly discounts on packaged dry staple food such as cooking oil.

The last two constructs, 'efficient shopping' and 'modern retailer characteristics', proved to be inconsistent. For cooking oil, 'efficient shopping' was comprised of quick check-out and product lay-out, indicating that consumers' actually purchase their packaged/dry food (in this case cooking oil) from modern retailers. For semi-processed (chicken meat) and fresh food (kangkong), the 'efficient shopping' construct was comprised of product-lay out and combined with attractiveness of the store, shopping convenience and a relaxing, comfortable shopping environment, indicating consumers mainly visit modern retail stores to look

around, for leisure and relaxing with family and friends. They only occasionally purchased fresh meat and vegetables from modern retail stores.

In terms of the leisure or relaxing component of the 'efficient shopping' construct, Jayasankaraprasad and Kathyayani (2014) found that the leisure aspect had only moderate impact on consumers' cross-shopping behaviour, which contradict the previous study of Sinha, which reported that shoppers' orientation was based more on the entertainment value rather than functional value (Sinha 2003 cited in Jayasankaraprasad and Kathyayani 2014). This study, on the other hand, shows that consumer orientation toward leisure activities partly depends on their shopping intention to buy packaged foods or to relax with family or friends at the shopping malls.

The construct of 'modern retailer characteristics' also revealed the presence of different attributes across each of the three food categories. For cooking oil, characteristics of modern retailers were linked to 'clear price tag' as an indication of the actual purchase of packaged food such as cooking oil, while for chicken meat and kangkong, the construct was more related to browsing and enjoying the variety, price discounts and membership/shopping points offered by modern retailers. Product attributes support the importance of brand and product variety offered by hypermarkets/supermarkets, as 'brand' and 'packaging' consistently emerged as one factor across all three product categories.

In terms of 'food quality and safety', a comparison of the constructs showed that 'food health and safety' was related to 'cleanliness' of products. This construct was consistent for cooking oil, chicken meat and kangkong. This finding is supported by Veeck, Veeck and Zhao (2015) who suggest that food safety is the main concern for consumers. According to Grunert *et al.* (2011) consumers' concern about food safety is related to the unhygienic practice of food production processes. However, this study showed that characteristics and health issues pertaining to each product category seemed to influence consumers' perception of food safety, such as 'purity' which was important for the safety of cooking oil, 'cleanliness' which was an indication of food safety for kangkong and 'smell' and 'nutritious' which were included in the food safety construct for chicken meat. The influence of specific product attributes on consumer perception also identified by Van Trijp *et al.* (1996, cited in Mohan, Sivakumaran and Sharma 2012), that characteristics at product-category level will influence consumer involvement and evaluation in purchasing the product.

The product attribute 'freshness' consistently emerged across all three product categories, but it was associated with different variables which were product-specific such as smell, taste and nutrition for cooking oil; colour and purity for chicken meat; and the green colour for kangkong. While the product attribute 'taste' emerged in purchasing cooking oil and kangkong, it was not evident for chicken meat because consumers probably focused more on the health, freshness and halal aspect of the meat. Another plausible explanation is that, for the purchase of fresh chicken meat, it is not possible for consumers to assess the taste of the meat because it is in raw condition. Comparison of two studies on the purchase of chicken in Indonesia revealed that taste was not mentioned in the purchase of fresh chicken meat (Rahmawaty 2014), but was the most important attribute for the purchase of cooked (ready-to-eat) chicken (Ismoyowati 2015). For similar reasons (focusing on health/fresh and halal assurance), 'product origin' emerged as one factor for chicken meat, but not for both cooking oil and kangkong. The significance of halal assurance in relation to other attributes is because for Muslim consumers, halal assurance offers cleaner, healthier and tastier meat (Alam and Sayuti 2011).

One-way ANOVA for store attributes and product attributes showed significant differences in the mean scores between the three clusters identified in Chapter 8 (modern, traditional and selective shoppers). For cooking oil, the selective shoppers (Cluster 3) recorded the highest mean scores for all five store attributes factors and two of the three factors identified for the product attributes. For 'brand and packaging', the modern shoppers (Cluster 1) recorded the highest mean score, indicating that modern shoppers mostly purchased packed branded cooking oil from modern retailers (hyper/supermarkets). The traditional shoppers (Cluster 2) recorded the lowest mean for most store and product attributes except for 'social relationship', while the modern shoppers recorded medium mean scores for most store and product attributes except for 'brand and packaging'.

For chicken meat, the selective shoppers also recorded the highest mean scores for all four store attribute factors. Modern shoppers mostly scored medium and the traditional shoppers mostly scored the lowest. The exceptions were for 'food safety and value for money' for which the mean scores for modern and traditional shoppers were not significantly different, and for 'social relationship' for which the traditional shoppers scored the highest mean while the modern shoppers recorded only a medium score. This finding suggests that consumers establish a long term relationship to get guarantee of quality, which was also identified by Zhllima, Imami and Canavari (2015), that consumers rely on personal trust to the butcher to guarantee the quality and safety of the meat. Similar patterns were also recorded for the four factors for product attributes, where the selective shoppers scored the highest, modern

shoppers scored medium and traditional shoppers generally scored the lowest. The exceptions from these patterns were for 'healthy and safe' and 'product of origin'. For 'healthy and safe', the mean for modern and traditional shoppers were not different, and for 'product of origin' all the means from the three clusters were not significantly different. The similar mean for 'healthy and safe' may imply that both clusters valued food safety in purchasing chicken. While for product of origin, all clusters did not seek information about the source of the meat they buy, as Hoang *et al.* (2012) found that most consumers in Vietnam did not know about the origin of beef they purchase.

For kangkong, selective shoppers also recorded the highest mean score for all store attribute factors; modern shoppers scored medium; and the traditional shoppers scored the lowest, except for 'social relationship', for which the traditional shoppers recorded a medium score and modern shoppers scored the lowest. The selective shoppers also recorded the highest mean score for all three product attribute factors. However, the means of the modern and traditional shoppers were not significantly different for 'health and freshness' and 'taste/flavour'. This findings show the importance of freshness and taste for consumers' decision to purchase fresh vegetables. For 'brand and packaging', the modern clusters scored medium and the traditional shoppers scored the lowest. This may imply that modern shoppers may purchase packed/branded fresh vegetables from modern retailers when they browse around the shopping malls. Even though modern retailers were not the main store for fresh vegetables in this study, they can offer convenient pre-packed vegetables for busy consumers. According to Brookes (1995), supermarkets provide added-value in terms of pre-prepared vegetables (washed, trimmed and cut), mixed and microwavable packages of vegetables.

9.6 Conclusion

This study revealed that among five constructs (determinants) identified for general food products (Chapter 9), three constructs (food quality and safety, competitive price and social relationship) were consistent across the three product categories (cooking oil, chicken and kangkong). However, the two other constructs (efficient shopping and modern retailer characteristics) were not consistent across product categories. These results suggest that consumers' interpretation of some constructs (the characteristics of modern retailers and the concept of efficient shopping) varies across categories because these constructs were partly influenced by the nature of each food product category. Therefore, this study provides deeper insight into how and why consumer cross-shop by identifying different attributes

which were valued the most when consumers make decision to purchase certain product category from multiple stores available.

Based on separate factor analysis of store attributes for each product category, consumers valued personal relationship across three product categories, which is mostly associated as the advantage of traditional retailers. However, distinct characteristics of each product (cooking oil, chicken and kangkong) have resulted in slightly different components of the constructs of 'food quality and safety' and 'competitive price'. Characteristics of each product have also resulted in much variation in the components of the constructs of 'efficient shopping' and 'modern retailer characteristics'.

Similar to the store attributes, comparison of constructs from product attributes suggests that distinct characteristics of each product categories influenced consumer interpretation of the constructs. The variety of interpretation was partly related to how consumers evaluate different food products, such as the importance of purity for cooking oil due to the incidents of oil adulteration in Indonesia or the importance of green colour to evaluate the state of freshness of fresh vegetables.

Comparison of components in the store attribute constructs identified for the three product categories provides an indication that consumers mostly purchased packaged food (in this case cooking oil) from hypermarkets as they valued price discount (within the construct of 'competitive price'), product lay-out and quick check-out (within 'efficient shopping') and clear price tag (within 'modern retailer characteristics'). On the other hand, for semi processed food (fresh chicken meat) and fresh produce (kangkong), consumers valued product lay-out, attractiveness of the store, shopping convenience and comfortable shopping environment (within the construct of 'efficient shopping'), which was an indication that they visited shopping malls for leisure activities but occasionally purchased some fresh food as they browsed the modern retailers.

These findings confirm the theory of selective adoption of modern retail stores which was first identified by Goldman (2000) (Meng *et al.* 2014). This theory suggests that consumers prefer to purchase packaged food from modern retailers and fresh food from traditional markets during the initial stage of modern retailer diffusion in developing countries. With the recent rise in hypermarkets, the centre of Riau Province (Pekanbaru City) is an urban area where the existing traditional wet markets compete directly with modern retail giants. These hypermarkets were built in the last few years: Makro (later became Lotte Mart) in

2004, Hypermart in 2005 and Giant hypermarket in 2009. Carrefour has been planning its entrance to Pekanbaru since 2012 (Anggoro 2012).

These findings also confirm the conclusion from the previous chapter regarding the complementary function of traditional and modern food retailers from consumers' perspective. Jayasankaraprasad and Kathyayani (2014) concluded that cross-shopping was influenced by store format complementarity, where consumers benefit from different features of different retail food stores. Similarly, Kelly *et al.* (2015) observed that consumers generally enjoy different aspects of shopping in different food retail stores.

Comparison of means among the three clusters identified in this study (modern, traditional and selective shoppers) provides an indication that with a few exceptions, the largest cluster (selective shoppers) recorded the highest mean scores for the constructs identified for store and product attributes across three product categories (cooking oil, chicken and kangkong). These high means confirm the conclusion from the previous chapter that food purchase is a high-involvement activity, and with the availability of traditional and modern food retailers (in this case traditional wet markets and hypermarkets/supermarkets), consumers are more demanding and cross-shop to purchase quality safe food at the most affordable price.

The similarities and differences of product and store attribute determinants which were identified in this chapter based on factor analysis will be synthesised with the descriptive analysis of consumer cross-shopping habits (Chapter 7), the determinants for general food products and descriptive analysis of variables influencing store choice from open ended questions (Chapter 8) and combined with the preliminary results from focus group discussions (Chapter 5) in the final chapter.

CHAPTER 10

SUMMARY, CONCLUSIONS AND IMPLICATIONS

10.1 Introduction

This chapter is devoted to the summary, conclusions and implications. It starts with a brief description of this study (Section 10.2). Then the main findings of the study are summarized (Section 10.3), conclusions and implications are drawn in response to the research objectives (Section 10.4), and the contributions are outlined (Section 10.5). The final section presents the limitations of this study and suggestions for future research (Section 10.6).

10.2 Summary

The key driver for this study is that despite the massive development of modern retail food stores in developing countries, competing with the pre-existing traditional retail formats, only a limited number of studies have explored the influence of supermarket diffusion toward consumers' choice of food stores in developing countries. This study was intended to gain more insights into consumers' cross-shopping behaviour in terms of partial adoption of modern retailers and contribute to the field of knowledge on whether modern retailers will be able to capture the majority of consumers as the big middle retailers or would they only capture the niche for more affluent consumers due to the resilience and specific advantages of traditional retailers.

Based on the three-step model of product category diffusion of supermarkets in developing countries, that modern retailers will first capture processed food, followed by semi-processed and finally the fresh food category, this study selected three distinct product categories to be examined: cooking oil to represent processed food, fresh chicken meat to represent semi-processed food and fresh kangkong to represent fresh food. This study then explored consumers' cross-shopping habits for food products in general, examining the determinants of cross-shopping for general food and determinants for each of the three distinct categories to be able to compare and examine consistencies for determinants across three product categories (cooking oil, fresh chicken meat and fresh kangkong).

The objectives of this study are:

1. to describe consumer cross-shopping habits between traditional and modern food retail stores.

2. to examine the determinants of cross-shopping behaviour among traditional and modern food retail stores.

3. to examine whether there is a difference in the determinants of cross-shopping behaviour between major food product categories (dry foods, fresh produce and fresh chicken meat) and whether the determinants of retail shopping behaviour are consistent across food product categories (dry foods, fresh produce and fresh chicken meat).

To achieve these research objectives, research was conducted using a sequential exploratory mixed method design. In the first stage, qualitative data were gathered using focus group discussions to explore consumers' cross-shopping behaviour and determinants in choosing a food retail store in purchasing general food, processed food (cooking oil), semi-processed food (fresh chicken meat) and fresh food (kangkong). Participants were selected using convenience sampling from the researcher's network. In the second stage, a structured questionnaire was administered in a face-to face interview with respondents who were selected using a systematic shopping mall intercept method where enumerators were located in the exits of hypermarkets and traditional wet markets.

The findings from the qualitative phase were presented in Chapter 5. The findings showed that traditional retailers were still dominant in the purchase of fresh chicken meat and fresh kangkong, while for the purchase of cooking oil, both traditional and modern retailers were important. Different themes were identified for the three product categories, and the findings support the theory of selective adoption. The results showed that selective adoption was more prominent for more affluent consumers because they are likely to have the ability to shop further from home as they have their own vehicle, whereas other consumers had limitations in shopping further from home. However, the participants of the focus groups were recruited through convenience sampling and, hence, this finding need to be explored further in the quantitative phase.

Chapter 6 described the methodology applied in the quantitative phase. This chapter described the development of survey instruments based on the themes identified from the qualitative focus groups, the justification in selecting the systematic mall-intercept sampling and how the surveys were administered to the respondents.

Chapter 7 described the profile of the survey respondents and consumers' cross-shopping habits to address the first research objective. The results showed that the key characteristics of the survey respondents resemble those of previous findings or statistics, such as the dominant role of females in food shopping and that most respondents were Muslims. Some attributes were slightly higher than official statistics or previous studies, which were due to the location of the survey in the urban area (Pekanbaru City), which was done to capture consumers who had access to both traditional retailers and modern shopping malls. The majority of consumers exhibit cross-shopping (multi-store patronage) among different retail food stores. Moreover, the most important retailers for food were traditional wet markets, hypermarkets for main food purchases, and warungs for emergency purchases. There was a complementary function between the main and secondary food stores, most consumers were separating their visits to wet markets (weekly for fresh food) and hypermarkets (monthly for dry food).

Chapter 9 was devoted to address the second research objective. This chapter explored the determinants of consumers' cross-shopping, and confirmed results of previous studies that the proliferation of new retail formats and consumers' characteristics have an impact on consumers' cross-shopping behaviour. Based on the five constructs identified, this study demonstrated that natural characteristics of each product category also influence cross-shopping. This influence was shown in the two less important constructs (modern retail characteristics and social relationship). The social relationship is more important for products purchased from traditional retailers (fresh food), while modern retailer characteristics are more important for products purchased from modern retailers (processed food). This chapter also identified three clusters (traditional, modern, and selective shoppers) based on their store attributes ratings. The largest cluster was selective shoppers who had greater preference and ability to cross-shop between wet markets and hypermarkets, they also identified as more demanding shoppers due to their heavy spending and their comparison of the advantages of both retail formats.

Chapter 10 was devoted to address the third research objective. This chapter compared the determinants across three product categories and revealed that consumers patronised different sets of retail formats for different food categories. The components of each of the constructs underlying the consumers' decision to cross-shop were influenced by the types of products available in the market and the characteristics of each product category. For cooking oil, the constructs components showed the tendency to shop from modern retailers which provided advantages such as clear price tags and quick check-out, while for fresh chicken meat and kangkong, the constructs were more related to browsing, enjoying the

variety and attractiveness of the store, indicating that consumers only occasionally purchased chicken and kangkong as they visited shopping malls for relaxing and looking around.

10.3 Key findings

The key findings of the study are outlined below.

10.3.1 Consumer cross-shopping habits between traditional and modern food retail stores

Based on the types of stores patronised and the most important food retail stores identified by respondents, this study confirms that the majority of consumers patronised multiple stores, or in other words, they cross-shopped between at least two food retail stores. Among the most important food retail stores patronised by the consumers (traditional wet markets, *warungs*, hypermarkets, supermarkets and minimarkets), the two most important ones were traditional wet markets and hypermarkets. *Warungs* were most often patronised for top-up or urgent purchases.

Consumers chose the main retailer for food products in general due to their convenience (closer, complete range, many choices), the provision of fresh, good quality produce (an indication of wet markets), and the availability of processed food at a special/discounted price (an indication of hypermarkets). The second most important food retailer was selected due to their close proximity and low price.

Despite the increasing tendency reported in previous studies on consumers' preference for one-stop shopping and the close proximity of modern retailers (hypermarkets and supermarkets) to traditional wet markets in Pekanbaru City, the majority of consumers visited traditional wet markets and hypermarkets on separate occasions. The main reason for separating those visits provided by respondents was that each visit was based on the types of food they needed to purchase at the time. The shopping patterns exhibited by consumers revealed that the majority of the consumers visited traditional wet markets on a weekly basis for fresh food, while they visited hypermarkets/supermarkets on a monthly basis for dry packaged food.

10.3.2 Determinants of cross-shopping behaviour for food in general between traditional and modern food retail stores

Previous studies have identified the development of different food retail stores as one factor encouraging cross-shopping behaviour, because different retail stores has their own strengths in fulfilling consumers' needs. Similarly, this study also revealed that traditional and modern food retail stores have their own strengths in fulfilling consumers' needs.

This study found that the strengths of the traditional wet market were related to its superiority in providing fresh food, especially vegetables and fish at cheaper and more affordable prices. As freshness was perceived to be one of the main criteria for evaluating the quality of perishable food items, respondents highly appreciated the opportunity to choose among the variety and abundance of different stalls in the wet market. Some respondents appreciated the opportunity to bargain, to touch/select the food with their own hands and the assurance/guarantee provided from the personal relationship they had established with their regular/most patronised vendor in the market.

Apart from these advantages, however, the wet markets' major flaw was related to the uncomfortable physical environment such as the bad smell, muddy/dirty and wet floor (especially around fish stalls). A messy/disorderly arrangement, crowded/cramped conditions with many shoppers, the heat, and the presence of beggars and pickpockets made the wet markets less attractive.

Conversely, one of the main strengths of the modern retailers' (hypermarkets and supermarkets) was the comfortable/cool air conditioned shopping environment. Hypermarkets and supermarkets provided a clean, refreshing shopping environment with most respondents participating in sightseeing/window shopping, recreation and leisure with the family. The other strength of hypermarkets and supermarkets was the provision of packaged and branded food products. Many respondents mentioned the importance of price discounts/promotions offered by modern retailers and they regularly took the opportunity to purchase their dry foods in bulk. Other respondents appreciated the wider choice/variety of products offered by modern retailers which were attractively presented and provided an opportunity to browse with no obligation to buy.

Other than these strengths, however, modern retailers were perceived to be inferior due to their higher/more expensive prices and the lack of freshness for vegetables and meat.

Respondents disliked the long queues at the checkout and the various problems associated with finding a parking spot.

Further analysis of determinants of purchasing food products in general using factor analysis identified five underlying constructs that were found to have the most influence on the consumers' decision to purchase food from a retail store. The three most important constructs were food quality and safety, efficient shopping and competitive price. The two other constructs were 'modern retailer characteristics' and 'social relationship'.

Food quality and safety issues were a major concern for the respondents as food safety incidents are quite common in Indonesia. Many consumers patronise modern retail food stores for guarantee of quality and safety. The significance of efficient shopping has also been identified in previous research as consumers today are becoming busier than before. This proposition is confirmed in this study as most respondents identified close location as an important consideration in selecting the main and any additional food retail stores.

Competitive price was also one important consideration for consumers in selecting a food store. This construct was supported by the self-identified price paid by respondents at different retail stores as discussed in Chapter 7. The findings showed that for semi-processed food (fresh chicken and kangkong), the prices offered by modern retailers were much higher, but modern retailers are becoming more competitive in processed/packaged food (packaged cooking oil). This price construct therefore justified consumers' preference to partially adopt modern retailers for processed food.

The other two constructs ('modern retailer characteristics' and 'social relationship') were of lesser importance in consumers' decision to purchase general food products. This might be related to different attributes associated with different food category. Therefore, as mentioned in Chapter 8, 'social relationship' is more important for food purchased from traditional retailers (fresh food), while 'modern retailer characteristics' is more important for food purchased from hypermarkets and supermarkets (processed/packaged food).

Previous studies suggest that other than the development of new retail formats, another factor encouraging cross-shopping is the differences in consumers' needs. To gain some insights into the impact of the consumers' demographics on store patronage, this study used cluster analysis to identify any of the segments among Indonesian shoppers in Riau Province based on their store attribute ratings. Three clusters (traditional, modern, and selective shoppers) were identified.

The smallest cluster identified in this study was labelled as the 'traditional' cluster. This cluster recorded the lowest mean score for most food store attributes, but scored medium for attributes associated with traditional retailers – knowing the seller personally, meeting neighbours/friends, and the desire to support small traders. The respondents in this cluster were mostly mature age and have low educational attainment. The members within this cluster had limited purchasing power (low income, irregular income, and low credit card ownership) and fewer transportation options (low car ownership) compared to the other clusters. For these members, traditional wet markets were the preferred main food retailer. They also shopped more frequently at *warungs*. However, about one third of the shoppers in this cluster regularly patronised hypermarkets to buy dry food and non-food items.

The traditional cluster recorded the lowest means for four out of the five constructs for food in general (modern retailer characteristics, efficient shopping, food quality and safety and competitive price). However, for the social relationship construct, a medium score indicated the importance of personal relationships with vendors in the wet market.

The respondents in the second largest 'modern' cluster recorded the lowest mean scores for the three attributes associated with traditional retailers, and had medium scores for criteria associated with modern retailers. The members of the modern cluster had the highest level of education and the highest proportion of young respondents. This cluster recorded the lowest mean score for the social relationship construct which suggested that the members of the 'modern' cluster did not rely much on personal trust with traditional vendors. While most of the shoppers in the 'modern' cluster purchased their dry food and non-food from hypermarkets, shoppers still purchased most of their fresh vegetables and chicken/fish from the traditional wet markets.

The largest cluster was described as 'selective' shoppers. The members of this cluster rated most attributes as being important which suggests that the members of this cluster will readily switch between stores depending upon which store offers the best value. The majority of respondents in the 'selective' cluster were mature age (25–54 years old), with a high level of education. Most members of the cluster received a regular monthly income, one-third owned a car, and one-fifth possessed a credit card. The members of this cluster mostly purchased their fresh fruit, vegetables, chicken and fish from the wet market, but purchased dry foods from hypermarkets. As the members of the 'selective' cluster generally spent most of their household income on food, this encouraged them to look for the best value from both modern and traditional food stores.

As the 'selective' cluster in this study comprised almost half of respondents, the proposition that most consumers exhibit some cross-shopping behaviour when shopping for food is supported. The 'selective' cluster scored significantly higher on all five constructs for food in general (modern retailer characteristics, efficient shopping, social relationship, food quality and safety and competitive price) indicating their high involvement in food shopping.

The identification of these clusters has been noted in previous studies such as in Thailand (traditional, modern and mixed shoppers) and Malaysia (traditional market, modern retail and transient shoppers). However, the composition of the clusters was found to vary in each case.

10.3.3 Comparison of determinants of cross-shopping behaviour across food product categories (dry food, fresh chicken meat and fresh produce)

Previous studies have suggested that some consumers cross-shop to fulfil their needs for different kinds of food such as specialty foods, where they patronise traditional stores to purchase items which are not available in modern food retailers. This study explored consumers' reasons to purchase three distinct food product categories and the results support previous findings (available in more details in Section 11.3.2) that each food retailer has its own strengths. The determinants include the selection of types or variety of products available in the market, such as bulk versus packaged cooking oil, types of containers of cooking oil, live or dressed chicken, and specific attributes such as halal assurance for chicken meat.

For the purchase of cooking oil, the main retailers were traditional wet markets and hypermarkets, supermarkets and *warungs*. In this instance, the equal importance attached to the traditional and modern retailers was attributed to differences in the product form; bulk unbranded cooking oils were primarily sold in the traditional market whereas higher quality branded and pre-packaged cooking oils were heavily promoted in modern retailers. While packaged cooking oil was sold in disposable containers (mostly plastic bottles), unbranded bulk cooking oil was sold by traditional vendors in wet markets and *warungs* by weight (250 g, 500 g or 1 kg) in a clear plastic bag.

Supermarkets were patronised for the purchase of cooking oil because they offered price promotions and were cheaper. Hypermarkets were patronised due to their promotions/special price, cheaper price and convenience. Traditional wet markets were patronised because the price was perceived to be cheaper, they were conveniently located

and the respondents purchased cooking oil together with other food products. The main reason to patronise *warungs* for the purchase of cooking oil was close proximity to the residential area.

In terms of the store attributes, a strong 'social relationship' was important for the purchase of bulk (generic) cooking oil because this type of cooking oil carries no guarantee of quality in terms of a label or a brand name. For the purchase of cooking oil, a 'price discount' and 'competitive price' was related to the strategy of modern retailers to attract consumers with regular price discounts. 'Efficient shopping' was comprised of quick check-out and good product layout, and 'modern retailer characteristics' were linked to a 'clear price tag'.

'Food quality and safety' was related to the 'cleanliness' of the product and was consistent across the category, however, 'purity' was particularly important for the purchase of cooking oil. For cooking oil, 'freshness' was associated with smell, taste and nutritional value.

In purchasing fresh chicken meat, consumers had to make the decision between purchasing live chicken to be slaughtered on-the-spot or chicken that had been previously slaughtered (dressed). Most respondents preferred to purchase chicken from traditional wet market vendors and independent roadside chicken stalls because these retailers provided live chicken to be slaughtered on-the-spot.

In purchasing fresh chicken meat, the traditional wet markets had many advantages over the modern retailers including an assurance of halal, a good relationship/trust, good quality, fresh and healthy, the ability to self-select, good service, a competitive price and the ability to bargain, the ability to buy the desired quantity, location, convenience and the variety of product. For the few respondents who did purchase chicken meat from hypermarkets, the reasons were convenience, the variety of product and impulse buying.

The other decision in purchasing fresh chicken meat was the desire to purchase a whole chicken, a half chicken or chicken portions. As most respondents purchased whole chicken, the quantity purchased on each occasion varied according to the size of the chicken.

Most respondents (three-quarters) preferred to purchase live chicken rather than dressed chicken due to the superior quality and freshness. Those who purchased dressed chicken did so because it was practical, quicker to prepare, could be cooked immediately or because live chicken was not available.

In terms of store attributes, a 'social relationship' was important as an indication of trust in the vendor as a guarantee of the halal status of the meat. For fresh chicken meat, the 'efficient shopping' construct was comprised of product layout, attractiveness of the store, shopping convenience and a relaxed and comfortable shopping environment. Given that only few respondents regularly purchased fresh chicken meat from modern retailers, this construct was of little importance in the decision to purchase. Similarly, in purchasing fresh chicken meat, the construct of 'modern retailer characteristics' was more related to browsing, enjoying the variety and shopping points offered by modern retailers.

For the purchase of fresh kangkong, the main retailers patronised were traditional wet markets (about three quarters) and *warungs* (one fifth), reaffirming and reinforcing consumers' expectations that traditional food retailers were perceived to provide fresher food products. Wet markets were associated with many advantages including: superior freshness, better quality, more natural, a greater variety/more choice, one-stop shopping, a more competitive price, the ability to bargain, social activities, parking, the ability to self-select, a fast check-out, close location and habit.

For those few respondents who purchased fresh kangkong from hypermarkets, the hypermarkets were associated with one-stop shopping, clear price tags, better convenience, clean and air conditioned stores, good layout, good shopping facilities, ease of parking, good service (as in finding a product), free to look around, sales promotions, impulse buying and personal security/safety.

Social relationship was important in the purchase of kangkong because it was mostly purchased from traditional retailers. Meanwhile, food quality and safety was also important and was comprised of the honesty of the vendor and the safety of the produce, which was related to issues such as pesticide residues. A competitive price for kangkong was important but less than that for cooking oil and chicken meat due to the low price per unit (bunch).

Similar to fresh chicken meat, 'efficient shopping' for kangkong was comprised of product layout, shopping convenience, an air-conditioned environment, attractiveness of the store and relaxation. The construct 'modern retailer characteristics' was more related to variety and the discount offered by modern retailers. Both of these constructs indicated that consumers visited shopping malls mainly to relax and that they purchased kangkong only occasionally while they were browsing (impulse sale).

10.4 Conclusions and implications

This study suggests that for food products in general, most respondents exhibited cross-shopping behaviour between at least two food retail stores, mainly between the two most important food retail stores (traditional wet markets and hypermarkets) which captured the largest portion of consumers' monthly food expenditure. Generally, consumers purchase fresh food from traditional stores and dry packaged food from modern retailers. This preference confirms that at the current stage of supermarket development in Riau province, Indonesia, modern retailers are becoming competitive in price for packaged food but are perceived to be inferior in their fresh food quality, assortments and price.

The details on different types of food purchased from wet markets and hypermarkets, however, provides an indication that hypermarkets offer some other advantages other than the regular price discounts of packaged food. For instance for fresh fruit, hypermarkets are gaining market share especially for imported fruit. Consumers' tendency towards convenient food such as pre-packed and mixed vegetables, and packages of similar chicken and meat cuts which are not available at traditional retailers opens an opportunity for modern retailers.

The largest cluster identified from the quantitative stage was the 'selective' shoppers who alternated their visits to traditional wet markets (weekly for fresh food) and hyper/supermarkets (monthly for dry food). While the qualitative findings suggest that selective adoption behaviour was observed for more affluent consumers, the survey confirms that the majority of consumers from all three clusters (modern shoppers, traditional shoppers and selective shoppers) exhibit some level of selective adoption behaviour by cross-shopping between traditional wet markets and hypermarkets. However, the difference among the three clusters was in terms of the frequency of visits and the monthly food expenditure at different retailers; i.e., modern shoppers purchased more food products from hypermarkets, traditional shoppers relied mainly on closer wet markets and *warungs* due to limitations in budget and transportation.

As the majority of respondents purposefully planned separate visits to wet markets and hyper/supermarkets, this indicates a high level of involvement in the decision to shop, presumably because food shopping represents such a significant part of the household budget. The main reason to separate visits to wet markets and hypermarkets was that each shopping trip was directed by different needs, based on the need to purchase different product categories. Related to the three-step model of modern retail development where

hypermarkets/supermarkets first capture the dry food market before fresh food, this study reinforces and reaffirms the need to consider the product category in undertaking any studies of food shopping behaviour.

This study provides deeper insights into how and why consumers' cross-shop by identifying the different sets of food retail stores that are patronised to purchase different product categories. A closer look at the main food stores for the purchase of three distinct product categories (packaged food, fresh chicken meat and fresh vegetables) revealed that consumers preferred different stores to purchase each product category. For the purchase of cooking oil, the wet markets and hypermarkets were equally important, while for the purchase of fresh chicken meat and fresh kangkong, the traditional wet markets and *warungs* were dominant. For the purchase of chicken meat specifically, the role of independent/road-side slaughter stalls was identified.

This finding suggests that consumers associate different attributes/strengths with each food retail store. Traditional wet markets were perceived to be superior in providing a greater variety of fresh food at more affordable prices while the modern retailers (hypermarkets/supermarkets) were superior in providing a comfortable, clean shopping environment and a greater variety of packaged foods at a discounted price. Small neighbourhood stores (*warungs*) were superior for urgent purchases due to their close proximity to consumers' residence. Shoppers therefore engaged in cross-shopping (multi store patronage) to fulfil a variety of needs (such as routine and urgent purchases) and to get the best value for money by purchasing the best quality food at the most affordable price.

This study identified food quality and safety and efficient shopping as the two most important constructs underlying consumers' decision to purchase food from a retail store. The three other less-important constructs were competitive price, modern retailer characteristics, and social relationship.

The comparison of the constructs underlying the consumers' decision to select a food store demonstrated that while some constructs were consistent across the three product categories, the composition of other constructs was inconsistent depending on the specific characteristics of each product category. This suggests that the consumers' preference for different retail stores will be influenced by the product category as well as the cultural and social values of the consumer. One cultural value that is anticipated to have a major influence in the consumers' decision to purchase food in this study is the halal requirement. This study demonstrated that modern retailers have yet to gain the trust of the majority of

Indonesian shoppers for the purchase of fresh meat. This lack of trust in halal assurance possibly acts as a barrier for modern retailers to capture the fresh meat category, which explains the slower acceptance of Indonesian consumers to purchase chilled and frozen meat from hypermarkets/supermarkets compared to other countries.

This study adds to the literature on the competition of modern and traditional retail food stores in emerging and developing economies in terms of the resilience of traditional food stores. Previous studies have suggested that the increased competition from modern retail store formats is having a negative impact on traditional retailers. However, this study demonstrated that traditional retailers have shown some resilience in the form of developing new retail formats, such as temporary half-day markets in some residential areas and particularly for chicken meat, and the emergence of independent roadside kiosks/slaughter houses to accommodate consumers' preference for freshly slaughtered chicken meat close to their place of residence.

While previous studies mostly associate leisure shopping with modern retailers, this study identified strong social relationships that also emerge in traditional markets, not only between shoppers and their preferred vendors, but also in terms of community cohesion and social and leisure aspects, as housewives enjoyed the social interactions with neighbours and friends while shopping at traditional wet markets or participating in temporary half-day afternoon markets.

The differences in the importance of these determinants in purchasing different food categories emphasize that consumers value different key attributes for different food products, and that each food retail format (traditional and modern) has its own strengths in fulfilling the consumers' various needs. This finding suggests that more exploration in assessing the influence of product-specific attributes in food shopping is required.

This study also identified that the two most important food retail stores were traditional wet markets (which captured the majority of the shoppers' expenditure for fresh food) and hypermarkets (which are gaining popularity for the purchase of dry packaged food). However, other retailers were found to complement these major retailers for fresh produce (temporary half-day markets) and dry food (supermarkets, minimarkets and independent grocers). Other retail formats were also found to be significant in fulfilling specific needs such as the need for urgent purchases (*warungs*) and for freshly slaughtered chicken meat (roadside chicken kiosks).

The implication for retailers is that modern retailers need to emphasize their strengths in providing a greater variety of packaged branded food in a relaxed comfortable environment. As browsing freely seems to encourage impulse buying, this may lead to the greater purchase of pre-packed chicken cuts and fresh vegetables. Modern retailers should train staff to assist consumers especially during peak periods, whilst maintaining the opportunity for consumers to look around without an obligation to buy. More importantly, they should overcome their relative disadvantages by: (1) improving the quality of their fresh produce through improving their procurement system; (2) developing consumers' trust, which is related primarily to the need to provide a halal assurance for fresh chicken meat, by displaying a halal certificate; and (3) improving the parking facility, providing correct price tags and optimizing the numbers of check-out counters to improve efficiency and comfort in consumers' shopping experience.

In order to regain market share from modern retailers, the findings of this research suggest that traditional retailers should: (1) improve the physical environment; and (2) trade honestly, as many issues originate from vendors engaging in dishonest practices.

The qualitative findings of this study revealed that other than personal relationships, one of the social outputs identified was consumers' desire to support the local community through purchasing food from traditional wet markets. As each of the food retailers has its own specific strengths, this finding is expected to support the government's decision to regulate the food retail sector in Indonesia and particularly in Riau Province. However, thus far, government efforts to support traditional retailers have been inadequate and insufficient as also noted by some studies in Southeast Asia. With the proliferation of modern retailers, government policy is crucial to help small-scale vendors in traditional wet markets to improve their strengths and support their future existence.

This study showed an indication that cross-shopping was conducted by the majority of consumers (when they have the capabilities to do so) to obtain the best quality safe food at the most competitive price – majority purchase fresh food from wet markets and dry food from hypermarkets/supermarkets which shows that wet markets are still competitive for fresh produce while hypermarkets are more competitive on dry food. This complementary function of modern and traditional retailers led to suggestion that the government balance the retail policy in Indonesia. This study revealed that some consumers do not cross-shop by choice or do not have resources to do so which has led to suggestion to support small-scale retailers which are located closer to housing complexes such as warungs, temporary markets or hawkers to cater the needs of these types of consumers.

Altenburg et al. (2016, p. 28) identified three government approaches towards modern retail diffusion in developing countries: (1) laissez-faire approach that government mainly deregulated retail markets without imposing any major regulatory constraints on foreign investors and without trying to cushion the displacement effects or help local competitors to adapt; (2) protectionist approach which have put pressures to foreign chains seeking to enter; (3) sequenced and assisted approach which is applied by most emerging and developing countries, opening their retail sectors gradually and assisting local retailers and suppliers to cope with structural change. For Indonesia, an agricultural country with millions of small farmers, distributors, processors and vendors involved in the traditional food retail sector, and some marginalised consumers who cannot afford to purchase most food from modern retailers, the sequenced and assisted approach seems more acceptable.

Related to the wet and unhygienic conditions which were identified in this study as the major disadvantage of traditional wet markets, the Indonesian government needs to recognise the significant role traditional markets play in distributing food to consumers and, thus, improve the infrastructure. The local government, in this case the market authority of Pekanbaru City, should implement regulations to improve conditions in the traditional markets. Such improvements might include concrete floors, running water and drains, especially in fish/meat areas and appropriate facilities for the slaughtering of poultry. To overcome the rubbish problems, facilities for the proper disposal of rubbish and clean-up crews to clean-up during the wet market closing time are suggested.

The government also needs to implement policies to deal with the food safety problems that are present in both modern and traditional food retailers. The policy should cover major issues in each product category such as halal certification for both local and imported food products, refrigeration and food safety training for vendors. Given also that some vendors in the traditional markets purposefully adjust their weighing scales to overcharge buyers, there is a role for government to regularly calibrate the weighing scales to ensure they provide the correct weight.

10.5 Contribution of this research

This study is expected to contribute in terms of expanding the consumer behaviour theory, providing evidence that has practical use for government policy as well as suggestions on improving business strategies for traditional and modern food retail stores.

This study also expands the literature on cross-shopping behaviour to a non-Western context (case of Riau Province, Indonesia), especially in relation to the theory of selective adoption in the context of the co-existence of traditional and modern food retail stores.

Firstly, apart from confirming that consumers exhibit selective adoption (buying packaged food from hypermarkets and buying fresh food from traditional wet markets), this study provided further insights to cross-shopping behaviour of Indonesian urban consumers, for instance, most consumers visited wet market and hypermarkets on separate occasions (purchasing fresh food on a weekly basis from traditional wet markets and purchasing packaged food on a monthly basis from hypermarkets and supermarkets)

Secondly, in relation to the three-step model of supermarket diffusion in developing countries, specifically the product category diffusion (from dry packaged food to semi-processed then to processed food), this study provided insights on consumers' cross-shopping patterns across the three food categories (cooking oil, chicken meat and kangkong). This study found that consumers mostly purchased semi-processed food (fresh chicken meat) and fresh food (kangkong) from traditional retailers but purchased packaged food from modern retailers, indicating that in Riau Province, and possibly in other urban areas outside Java, the modern retailer diffusion is at the initial/first stage.

Thirdly, this study adds to the theory of product category diffusion that for each food category, such as semi-processed food, the specific characteristics of a product may influence consumers to purchase from modern retailers. One example is that fresh meat category has to overcome not only the perception of freshness like fresh fruit and vegetables (FFV) but also the religious and cultural criteria such as halal assurance to gain acceptance. This study found that halal assurance for consumers also covers other attributes such as food health and safety, freshness and quality. Halal assurance is also a sensitive issue which does not necessarily arise as Muslims assume all food is halal among Muslim community, however, any issues on non-compliance of halal might badly influence a food business. These findings may be transferable to other countries in Asia where the majority of the population are Muslims such as Malaysia and Brunei.

Fourthly, this study also suggests that contrary to evidence from developed countries, there is an indication that food shopping is a high-involvement activity for consumers in Indonesia due to the significant proportion of food expenditure of the total income which is between 40-60% (Euromonitor International 2010 cited in Agriculture and Agri-food Canada 2011) and, specifically for the meat category, food consumption behaviour is related to religious

belief (halal assurance). Finally, at this initial stage of supermarket diffusion, for Indonesian consumers, the concept of 'one-stop shopping' probably means separate visits, one for most of their fresh food needs, and another for packaged food.

This study also provides evidence regarding the state of competition as well as advantages or disadvantages of different food retail formats in Indonesia including: (1) proliferation of new food retail formats, both modern retailers (hypermarkets, supermarkets and minimarkets) and traditional retailers (roadside chicken slaughter and half-day temporary vegetable market); (2) that each format of the modern and traditional retailer is associated with different strengths such as in providing packaged food or fresh food, recreational purposes or emergency purchases; and (3) evidence on consumers' concern about food safety issues across three product categories.

This evidence leads to some suggestions in terms of implications for government policy as follows: (1) managing the retail regulation to ensure healthy competition and livelihoods of small-scale traditional traders; (2) The government also needs to provide support for traditional retailers to improve their strengths in terms of improved infrastructure in the wet markets and in promoting the quality and safety of food, such as providing training for traditional vendors on food safety and encouraging halal certification for both modern and traditional retailers at affordable costs.

This study provides additional insights which are expected to be applicable in the food retailing industry. The identified constructs underlying consumers' decision to purchase food is beneficial for both traditional and modern food retailers to improve their business practice to better suit consumers' expectations from different retail food stores. Among the store-related attributes, the 'social relationship' construct was consistent across all product categories. Related to these constructs, traditional retailers need to maintain this advantage and build a long-term personal trust with consumers, while avoiding 'hit-and-run' approaches or unethical practices.

The constructs 'food quality and safety' and 'one-stop shopping' were consistently found across the product categories, even though the constructs were comprised of different elements across categories. In relation to food quality and safety, both modern and more importantly traditional retailers need to improve the quality and safety of the food and the cleanliness of the store. This study found an indication that 'one-stop shopping' for consumers in Riau Province means purchasing most or all of their fresh food from wet markets and purchasing dry packaged food from hypermarkets/supermarkets. Therefore,

other than improving cleanliness, the wet market vendors need to improve stall composition and lay-out inside the wet markets, with support from the market authorities, in order to meet consumers' preference for comparing prices among the variety of stalls. Furthermore, the finding that competitive price is an important consideration for consumers mean that both modern and traditional retailers need to focus on their pricing strategies as the majority of consumers do cross-shopping and are able to compare prices.

The construct 'modern retailer characteristics' was very important for cooking oil but was not identified for fresh chicken meat or kangkong. Supporting this construct, 'brand and packaging' was consistent across all three product categories. 'Freshness' and 'healthy and safe' were consistently found across all three product categories, even though the composition of the construct was found to differ for each product category. 'Taste/flavour' was identified for kangkong as a single construct (comprised of taste/flavour and colour), but was included in the 'freshness' construct for both cooking oil and chicken meat. Related to this, the modern retailer management may improve their strengths in providing quality assurance through branded and packaged food and they may gain consumers' attention by providing pre-packed fresh meat and vegetable to suit the busy consumers' lifestyle. On the other hand, traditional retailers need to maintain and improve their perceived freshness while improving the safety of the food they provide.

The high proportion of income spent on food products and the significance of halal assurance for Indonesian consumers, which is different from most Western consumers, may provide insights to understand consumer behaviour in countries categorized as second-wave countries such as Southeast Asia and Mexico (Reardon and Timmer 2007) where the modern retailers take-off occurred in the 1990s. The variety among determinants (constructs) to purchase processed food, semi-processed food and fresh vegetable in this study also indicates that the measurement of the market share of modern retailers in total food retail in developing countries may need to pay more attention to market share between these three distinct product categories.

Given the above findings, the business sector including private small and medium enterprises may benefit from this study by focusing on the characteristics (constructs) to suit the types of food products they provide (processed, semi-processed or fresh produce and animal-based or non-animal-based products). The business sector also needs to pay more attention to the characteristics of their main consumers, as this study revealed that the largest consumer segment was 'selectives' or cross-shoppers who were highly demanding and had high

involvement in food shopping due to their higher proportion of household income spent on food.

10.6 Limitations of this study and future areas for research

This study was intentionally conducted in Pekanbaru City as the centre of Riau Province to target consumers who had access to both traditional wet markets and modern hypermarkets and supermarkets. The sample has been validated with previous studies/statistics (see Appendix G), however, considering the differences between islands and urban/rural areas in Indonesia, such as infrastructure and economic development, the findings may be more applicable to those provinces with similar conditions with Riau, with the proliferation of hypermarkets within the last ten years.

It is suggested that future research cover more provinces and other islands where religious and cultural differences are expected to have a major influence on food purchasing behaviour. More specifically, future research may compare consumers' acceptance for different types of food within each category in relation to the modern retailer diffusion, such as among packaged food category (e.g., variety of staple food) and fresh food category (fresh meat, fresh fish, and FFV).

Another limitation of this study was the employment of student enumerators, which may have affected potential survey respondents, because potential respondents are more likely to participate in a survey when the enumerator is of similar age and from a similar cultural background. However, a systematic sampling procedure to solicit every nth person in the survey area (wet market and mall entrance) was applied to reduce interviewer selection bias in this study.

Finally, due to the cross-sectional design of this study, it was unable to fully capture the changes in consumer cross-shopping behaviour regarding the three-step model of modern retailer diffusion. This opens an avenue for further study using a longitudinal research design to capture the impact of supermarket diffusion across geographic, socioeconomic and product categories over time.

Appendix A: Focus Group Interview Guide

Introduction

Good morning and welcome to the focus group session on consumer shopping behaviour among modern and traditional retail stores. Thank you for your time to join our discussion today. My name is Yeni Kusumawaty, I am a lecturer of university of Riau doing PhD research at Curtin University, Australia. Assisting me is Ms Yanti and she is going to be our moderator for today's discussion.

From the discussion, we want to know your food shopping habit, how you divide your shopping between places like supermarket and wet market, and reasons for your shopping preferences for some food products (rice, chicken and kangkong). The discussion consists of series of questions. There are no right or wrong answers but rather differing points of view. There are two sessions of the discussion: session 1 from 9.00 to 12.00 then we will have an hour break for lunch and prayer, and session 2 from 13.00 to 15.00.

Let me remind you of some ground rules. We are going to voice-record the discussion because all your opinions are important for this research. Your comments will be anonymous and you will not be identified individually. After the details recorded on the tape have been transcribed the tapes will be destroyed.

Please speak up – only one person should talk at a time. If several people are talking at the same time, it is difficult to record all and we may miss some of your comments. We want to hear everything you want to tell us about this topic, but we need to make sure that everyone gets a chance to talk today. Please feel free to share your opinion even if it is different from what others have said.

We will keep the discussion as informal as possible. Please be relaxed while giving output on the discussion. Please switch off your mobile phone as we do not want this to disturb our discussion. Please help yourself with the food and drink provided, and feel free to go to the toilet during the discussion. At the end of the discussion, all participants will be rewarded a souvenir for their participation. Well, let's begin our discussion.

Session 1

Questions about General Shopping Habit and Wet Market versus Hypermarket

General Shopping Habit

From where do you purchase the majority of the food to be cooked and eaten in your household?

(MAKE A LIST OF THE FOOD RETAILERS ON THE BOARD)

Where else do you buy food? (ADD TO THE LIST OF ANSWERS FOR QUESTION A.1)

PROBES FOR QUESTIONS A.1 AND A.2:

- Wet market
- Small neighbourhood stores (*warung*)
- Hawkers
- Hypermarket
- Minimarket
- Supermarket

How often do you shop at each food retailer? (REFER TO LIST OF ANSWERS OF QUESTION 1 AND 2)

How do you go to each of the retailer mentioned? (REFER TO LIST OF ANSWERS OF QUESTION 1 AND 2)

Where do you usually buy dry food (such as rice, dried noodle or canned food)?

Where do you usually buy fresh vegetables?

Where do you usually buy meat?

Which one of the mentioned retailers are you using?

Why do you purchase food from the mentioned food retailer? (REFER TO THE LIST OF ANSWERS FOR QUESTION 1 AND 2)

PROBES

- Bargaining for price
- Personal relationship
- Able to pick up product with own hands
- Credit availability
- Product variety
- Cheaper price
- combining food shopping with other non-food shopping or recreation (one-stop shopping)
- Refrigerator/freezer facility
- Cleanliness
- Store atmosphere/ambience

- high quality (i.e : freshness, halal)
- Food safety (chemical residue such as pesticide, hormone residue)
- convenience location (i.e.: easy access - close to home or on the way to or from office or on public transport route)
- Convenience opening hours
- Product brand
- Ample parking facility
- Service
- Fast check out
- Courtesy of personnel
- Security
- Country-of-origin
- Others

Wet Market versus Hypermarket

- What else do you like about wet markets? (ADD / REFER TO THE ANSWERS FOR QUESTION A.9)
- What else do you like about hypermarkets? (ADD / REFER TO THE ANSWERS FOR QUESTION A.9)
- What do you dislike about wet market?
- What do you dislike about hypermarket?
- What products do you usually buy at the wet market?
- What products do you usually buy at the hypermarket?
- How many wet markets do you often go to?
- How many hypermarkets do you often go to?
- Why do you choose the mentioned wet market(s) over other wet markets? (REFER TO ANSWERS FOR QUESTION B.7)
- Why do you choose the mentioned hypermarket(s) over other hypermarkets? (REFER TO ANSWERS FOR QUESTION B.8)

One hour lunch and prayer break

Session 2

Questions about Rice, Chicken and Kangkong

Rice

- How often do you buy rice?
- What type of rice do you buy most often?
- Why?
- What is the quantity for each purchase?
- What is the package of the rice you buy?
- Where do you usually buy rice?
- Why do you buy rice from your chosen retailer?
- Where else do you buy rice?
- Why?

PROBES FOR QUESTION C.7 and C.9:

- Bargaining for price
- Personal relationship
- Able to pick up product with own hands
- Credit availability
- Product variety
- Cheaper price
- Combining food shopping with other non food shopping or recreation (one-stop shopping)
- Refrigerator/freezer facility
- Cleanliness
- Store atmosphere/ambience
- High quality (i.e : freshness, halal)
- Food safety (chemical residue such as pesticide, hormone residue)
- Convenience location (i.e.: easy access - close to home or on the way to or from office or on public transport route)
- Convenience opening hours
- Product brand
- Ample parking facility
- Service
- Fast check out
- Courtesy of personnel
- Security

- Country-of-origin
- Others

Chicken

- How often do you buy fresh chicken?
- Do you prefer broiler chicken or free-range ("village") chicken?
- Why?
- Do you prefer life chicken or dressed chicken?
- Why?
- Do you buy whole chicken or portions?
- Why?
- If portions, what portions?
- What is the quantity for each purchase?
- What is the package of the chicken you buy?
- Where do you usually buy the fresh chicken?
- Why do you buy fresh chicken from your chosen retailer?
- Where else do you buy the fresh chicken?
- Why?
- Do you also buy frozen chicken?
- If yes where do you buy and how often?

PROBES FOR QUESTION D.12 and D.14:

- Bargaining for price
- Personal relationship
- Able to pick up product with own hands
- Credit availability
- Product variety
- Cheaper price
- Combining food shopping with other non food shopping or recreation (one-stop shopping)
- Refrigerator/freezer facility
- Cleanliness
- Store atmosphere/ambience
- High quality (i.e : freshness, halal)
- Food safety (chemical residue such as pesticide, hormone residue)

- Convenience location (i.e.: easy access - close to home or on the way to or from office or on public transport route)
- Convenience opening hours
- Product brand
- Ample parking facility
- Service
- Fast check out
- Courtesy of personnel
- Security
- Country-of-origin
- Others
- If halal is important, how do you know that the chicken you buy is halal?

Kangkong

- How often do you buy kangkong?
- Do you prefer water kangkong or ground kangkong (the one with roots)?
- Why?
- What is the quantity for each purchase?
- Do you buy pre-packed or loose kangkong?
- Where do you usually buy the kangkong?
- Why do you buy kangkong from your chosen retailer?
- Where else do you buy kangkong?
- Why?

PROBES FOR QUESTION E.7 and E.9:

- Bargaining for price
- Personal relationship
- Able to pick up product with own hands
- Credit availability
- Product variety
- Cheaper price
- Combining food shopping with other non food shopping or recreation (one-stop shopping)
- Refrigerator/freezer facility
- Cleanliness
- Store atmosphere/ambience

- High quality (i.e : freshness, halal)
- Food safety (chemical residue such as pesticide, hormone residue)
- Convenience location (i.e.: easy access - close to home or on the way to or from office or on public transport route)
- Convenience opening hours
- Product brand
- Ample parking facility
- Service
- Fast check out
- Courtesy of personnel
- Security
- Country-of-origin
- Others

Appendix B: Focus Group Interview Guide for additional focus groups (cooking oil)

Introduction

Good morning and welcome to the focus group session on consumer shopping behaviour among modern and traditional retail stores. Thank you for your time to join our discussion today. My name is Kurnia Budiyanti, I am a lecturer of university of Riau and I will be the moderator for today's discussion.

From the discussion, we want to know your food shopping habit, how do you divide your shopping between places like supermarket and wet market , and reasons for your shopping preferences for cooking oil. The discussion consists of series of questions. There are no right or wrong answers but rather differing points of view. We will start from 9.00 pm to 12.00 pm.

Let me remind you of some ground rules. We are going to voice-record the discussion because all your opinions are important for this research. Your comments will be anonymous and you will not be identified individually. After the details recorded on the tape have been transcribed the tapes will be destroyed.

Please speak up – only one person should talk at a time. If several people are talking at the same time, it is difficult to record all and we may miss some of your comments. We want to hear everything you want to tell us about this topic, but we need to make sure that everyone gets a chance to talk today. Please feel free to share your opinion even if it is different from what others have said.

We will keep the discussion as informal as possible. Please be relaxed while giving output on the discussion. Please switch off your mobile phone as we do not want this to disturb our discussion. Please help yourself with the food and drink provided, and feel free to go to the toilet during the discussion. At the end of our discussion, lunch boxes will also be provided. Well, let's begin our discussion.

Food retailers and dry food in general

From where do you purchase the majority of the food to be cooked and eaten in your household?

(MAKE A LIST OF THE FOOD RETAILERS ON THE BOARD)

Where else do you buy food? (ADD TO THE LIST OF ANSWERS FOR QUESTION A.1)

PROBES FOR QUESTIONS A.1 AND A.2:

- Wet market
- Small neighbourhood stores (*warung*)
- Hawkers
- Hypermarket
- Minimarket
- Supermarket
- Where do you usually buy dry food (such as dried noodle, canned food, and cooking oil)?
- Why do you prefer to buy your dry food there?
- Where else do you buy dry food?
- How often do you buy dry food?
- How do you go shopping for dry food (what is your mode of transport)?

Cooking Oil

- How often do you buy cooking oil?
- What is the quantity of each purchase of cooking oil?
- What is the price for that particular quantity of cooking oil?
- What is the package of the cooking oil (bottle, pouch, plastic bag, etc)
- Do you buy cooking oil with brand on the package?
- If no, what is the reason to buy the non brand cooking oil?
- If yes, do you usually buy the same brand of cooking oil?
- What is the reason (s) for your preference for the cooking oil you buy most often?
- Where do you usually buy cooking oil?
- Why do you buy cooking oil from your chosen retailer?
- Where else do you buy cooking oil other than that particular retailer?
- Why do you also buy cooking oil there?

PROBES FOR QUESTION B.10 and B.12:

- Bargaining for price
- Personal relationship
- Able to pick up product with own hands
- Credit availability
- Product variety
- Cheaper price
- Combining food shopping with other non food shopping or recreation (one-stop shopping)

- Refrigerator/freezer facility
- Cleanliness
- Store atmosphere/ambience
- High quality (such as freshness, halal)
- Food safety (chemical residue such as pesticide, hormone residue)
- convenience location (i.e.: easy access - close to home or on the way to or from office or on public transport route)
- Convenience opening hours
- Product brand
- Ample parking facility
- Service
- Fast check out
- Courtesy of personnel
- Security
- Country-of-origin
- Others
- Is there any issue that influence you in purchasing cooking oil that we have not discussed today?

Appendix C: Information sheet and consent form

Research Title	:	Determinants of Cross-shopping Behaviour among Modern and Traditional Food Retail Stores in Indonesia, an empirical analysis of Riau Province
Investigator	:	Yeni Kusumawaty

Purpose of Study

This study will identify the determinants of cross-shopping behaviour among modern and traditional food retailers in Riau Province, Sumatra. The first (exploratory) stage of this research will be conducted by focus group discussion. By participating in this focus group interview you will be providing your opinions about your cross-shopping behavior among modern and traditional food retail stores.

Procedures

If you agree to be involved in this study, you will participate in a focus group interview with other participants. There are two sessions of the group interview, session 1 from 9.00 to 12.00 then we will have an hour break for lunch and prayer, and session 2 from 13.00 to 15.00. The interview will be voice-recorded and you will be asked questions about your food shopping habit, how do you divide your shopping between wet market and hypermarket, and reasons for your shopping preferences for some food products (rice, chicken and kangkong).

Confidentiality:

All recorded data will be transcribed into a word document on a Curtin School of Management computer using identification numbers only, no names will be used. Access to the stored data will be restricted by a password known only by the investigators. All data collected and consent forms will be stored safely in a locked cupboard at the Curtin School of Management.

The results of the study will be reported on, although it will not be possible to identify individual subjects as no identification numbers or names will be included in report material. On completion of the study, all data will be stored in a secure and confidential location with the project supervisor for five years. After this time, all data will be destroyed. This is a Curtin University requirement.

Request for Further Information:

You are encouraged to discuss and/or express any concerns or questions regarding this study with the investigators at any time. You should feel confident and secure about your involvement in the study.

Refusal or Withdrawal:

You may refuse to participate in the study and if you do consent to participate then you will be free to withdraw from the study at any time without fear or prejudice.

If you do decide to withdraw from the study at any time please contact me or my supervisor at the earliest possible convenience. All data will be destroyed if you do decide to withdraw.

Contact Details:

Student	**:**	yeni.kusumawaty@postgrad.curtin.edu.au
		(+61) 421848095
Supervisor	**:**	P.Batt@curtin.edu.au
		(+618) 9266 7596

Approval

This study has been approved by the Curtin University Human Research Ethics Committee. If needed, verification of approval can be obtained by either writing to the Curtin University Human Research Ethics Committee, c/- Office for Research and Development, Curtin University of Technology, GPO Box U1987, Perth, 6845 or by telephoning (08) 9266 2784.

Consent Form

Research Title	:	Determinants of Cross-shopping Behaviour among Modern and Traditional Food Retail Stores in Indonesia, an empirical analysis of Riau Province
Investigator	:	Yeni Kusumawaty

You are of your own accord making a decision whether or not to participate in this research study. Your signature verifies that you have decided to participate in the study, having read and understood all the information accessible. Your signature also officially states that you have had adequate opportunity to discuss this study with the investigators and all your questions have been answered to your satisfaction. You will be given a copy of this consent document to keep.

I, (the undersigned)

_____

Please PRINT

of

_____

_____

Postcode _____ *Phone* _____

consent to involvement in this study and give my authorisation for any results from this study to be used in any research paper, on the understanding that confidentiality will be maintained. I comprehend that I may withdraw from the study at any time without discrimination. If so, I undertake to contact Yeni Kusumawaty (Tel. (+61) 421848095 *) at the earliest opportunity.*

Signature _____ *Date* _____

Subject

I have explained to the subject the procedures of the study to which the subject has consented their involvement and have answered all questions. In my appraisal, the subject has voluntarily and intentionally given informed consent and possesses the legal capacity to give informed consent to participate in this research study.

Investigator: _____ Date: _____

Appendix D: Socio-demographic Questions

Please circle the answers for the questions

Gender:

a. Female
b. Male

Age:

a. 18 – 24 year
b. 25 – 34 years
c. 35 – 44 years
d. 45 – 54 years
e. 55 – 64 years
f. 65 and above

Marital Status:

a. Single
b. Married
c. Divorced/separated

Highest level of education completed:

a. Did not complete primary school
b. Primary school
c. Junior high school
d. Senior high school
e. Diploma
f. Graduate (strata 1)
g. Postgraduate (strata 2 and strata 3)

Please fill in the blanks

What is

your occupation : .....

your spouse's occupation : .....

What is the ethnicity of:

Your father : ..... Your father in law : .....

Your mother : ..... Your mother in law : .....

How many people live in your household?

Immediate family : ..... people

Extended family / relatives : ..... people

Others such as maid, baby sitter, etc : ..... people

Total number : ..... people

How many children do you have (if any)?

less than 5 years old	:	..... children
between 6 – 12 years old	:	..... children
between 13 – 17 years old	:	..... children

In which suburb (*kecamatan*) do you live? .....

Who does the food shopping in your household? .....

Do you have fridge at home? Yes / No

Do you have microwave oven? Yes / No

Do you have motorbike? Yes / no. If yes how many? .....

Do you have car? Yes / no. If yes how many? .....

If you use public transport for food shopping, what type? .....

On average, how much would you spend in a month on food for your household?
IDR .....

Do you have credit card? Yes / No

Please circle the answer

Approximate household (husband and wife) monthly income :

a.	Less than 500,000	e.	3,000,001 – 4,500,000
b.	500,000 – 1,000,000	f.	4,500,001 – 6,000,000
c.	1,000,001 – 2,000,000	g.	6,000,001 – 9,000,000
d.	2,000,001 – 3,000,000	h.	More than 9,000,000

Appendix E: Profile of participants of the first series of focus groups

Focus Group		**FG1**	**FG2**	**FG3**	**FG4**	**FG5**	**Total 5 FG**	**%**
No of Participants		7	10	10	17	18	62	
Socio-demographic criteria								
Gender	Female	7	10	9	17	18	61	98
	Male			1			1	2
Age	18-24	2	6		2	3	13	21
	25-34	4	4	1	9	3	21	34
	35-44	1		6	4	5	16	26
	45-54			3	2	5	10	16
	55-64					1	1	2
	>65					1	1	2
Marital status	Married	3	7	10	17	13	50	81
	Single	4	3			2	9	15
	Divorced/separated/ widow/widower					3	3	5
Education level	SD				1	2	3	5
	SMP				4	2	6	10
	SMU		5		8	12	25	40
	Diploma		1		2		3	5
	S1 (undergraduate)	3	2		2	2	9	15
	S2 and S3 (postgraduate)	4	2	10			16	26
Occupation	Housewife		5		14	14	33	53
	Student		1				1	2
	Government officer/ lecturer	7	2	10			19	31
	Private company worker		2		2	2	6	10
	Own business				1	1	2	3
	Pensioner					1	1	2
Spouse's occupation	Government Officer	2	4	4		1	11	18
	Private Company Worker	1	1	4	10	7	23	37
	Own Business		2	2	7	4	15	24
	Pensioner					1	1	2
	Not Applicable	4	3			5	12	19
Ethnicity	Javanese		5	1	4	3	13	21
	Malay	3	1	2	3	3	12	19
	Sundanese		1		2		3	5
	Minangkabau	4	3	7	8	8	30	48
	Bataknese					3	3	5
	Chinese					1	1	2
Spouse's ethnicity	Javanese		4		4	4	12	19
	Malay		2	5	3	3	13	21
	Sundanese	1	1		1		3	5
	Minangkabau	1		5	8	4	18	29
	Bataknese	1				2	3	5
	Borneo				1		1	2
	Not applicable	4	3			5	12	19
Household size	1 - 2 people		3	1	3	5	12	19
	3 – 4 people	4	5	3	7	10	29	47
	5 – 6 people	1	1	4	5	3	14	23
	7 or more people	2	1	2	2		7	11

Appendix E: Profile of participants of the first series of focus groups cont

Focus Group		FG1	FG2	FG3	FG4	FG5	Total	%
Socio-demographic criteria								
Suburb	Tampan	5	4	4	17		30	48
	Bukit Raya		1	1			2	3
	Lima Puluh					2	2	3
	Sail			1		15	16	26
	Sukajadi		1				1	2
	Marpoyan Damai		1	3			4	6
	Payung Sekaki		1				1	2
	Rumbai Pesisir	1					1	2
	Tenayan Raya		1			1	2	3
	Tebing Tinggi		1				1	2
	Tangkerang Barat			1			1	2
	Rimba Panjang	1					1	2
No of children (if any)	1-2 children including under 5	1	3	4	6	4	18	29
	3 or more children including under 5		1	3	6	1	11	18
	1-2 children with no under 5			1	2	3	6	10
	young adults 18 years old or more only			1		3	4	6
	no child	6	6	1	3	7	23	37
Monthly family income (IDR million)	0.5 – 1.0		1		1	3	5	8
	1.1 – 2.0	1	2		3	6	12	19
	2.1 – 3.0	1	4		10	3	18	29
	3.1 – 4.5	2	1		2	4	9	15
	4.6 – 6.0	3	1			1	5	8
	6.1 – 9.0			6	1	1	8	13
	more than 9.0		1	4			5	8
Monthly family food exp (IDR million)	0.5 or less		1			3	4	6
	0.6 – 1.0	2	7		7	2	18	29
	1.1 – 1.5	3	1	4	9	6	23	37
	1.6 – 2.5					4	4	6
	2.6 – 3.0	2		4	1	3	10	16
	3.1 – 4.5			1			1	2
	more than 4.5		1	1			2	3
Refri-gerator	Yes	6	7	10	8	14	45	73
	No	1	3		9	4	17	27
Microwave oven	Yes	1	1	4	1	4	11	18
	No	6	9	6	16	14	51	82
Motorbike	2 or more	5	2	4	4	6	21	34
	1	2	7	5	13	12	39	63
	no		1	1			2	3
Car	2 or more		1	3			4	6
	1	3		7	3	4	17	27
	No	4	9		14	14	41	66
Public transport	Yes	5	5	1	5	10	26	42
	No	2	5	9	12	8	36	58
Credit card	Yes		1	7	3	4	15	24
	No	7	9	3	14	14	47	76

Appendix F: Profile of the participants of the second series of four focus groups

Focus Group		**FG1**	**FG2**	**FG3**	**FG4**	**Total 4 FG**	**%**
No of Participants		8	7	6	6	27	
Socio-demographic criteria							
Gender		All female	All female	All female	All female	All female	100
Age	18-24	-	1	1	-	2	7
	25-34	5	2	3	2	12	44
	35-44	1	4	1	2	8	30
	45-54	2	-	1	2	5	19
Marital status	married	8	7	5	6	26	96
	single	-	-	1	-	1	4
Education level	SD	1	-	3	-	4	15
	SMP	4	1	2	1	8	30
	SMU	3	6	1	4	14	52
	Diploma	-	-	-	1	1	4
Occupation	housewife	8	7	4	6	25	92
	government officer	-	-	-	-	-	-
	private company worker	-	-	1	-	1	4
	own business	-	-	1	-	1	4
Husband's occupation	government officer	-	-	-	2	2	7
	private company worker	3	6	1	1	11	41
	own business	5	1	4	3	13	48
	not applicable	-	-	1	-	1	4
Ethnicity	Javanese	1	1	1	2	5	19
	Malay	2	2	1	-	5	19
	Sundanese	-	-	1	-	1	4
	Minangkabau	4	3	3	3	13	48
	Bataknese	1	1	-	1	3	11
Husband's ethnicity	Javanese	1	1	1	-	3	11
	Malay	2	2	1	1	6	22
	Minangkabau	4	3	3	2	12	44
	Bataknese	1	1	-	2	4	15
	Palembangnese	-	-	-	1	1	4
	Not applicable	-	-	1	-	1	4
Suburb	Tampan	8	7	6	6	27	100
Number of people living in the household	1-2 people	1	-	2	-	3	11
	3 – 4 people	4	3	3	2	12	44
	5 – 6 people	3	2	1	4	10	37
	7 or more people	-	2	-	-	2	7

Appendix F: Profile of the participants of the second series of four focus groups cont

Focus Group		FG1	FG2	FG3	FG4	Total 4 FG	%
Socio-demographic criteria							
Number of children (if any)	1-2 children including under 5 years old	3	2	3	2	10	37
	3 or more children including under 5 years old	-	2	-	3	5	19
	1-2 children with no under 5	2	1	-	-	3	11
	3 or more children with no under 5	1	2	-	-	3	11
	young adults 18 years old or more only	-	-	1	1	2	7
	no child	2	-	2	-	4	15
Monthly family income (IDR million)	0.5 – 1.0	3	1	2	1	7	26
	1.1 – 2.0	1	2	3	1	7	26
	2.1 – 3.0	-	-	-	4	4	15
	3.1 – 4.5	2	3	1	-	6	22
	4.6 – 6.0	1	-	-	-	1	4
	6.1 – 9.0	1	1	-	-	2	7
Monthly family food expenditure (IDR million)	0.5 or less	3	-	2	1	6	22
	0.6 – 1.0	2	2	3	3	10	37
	1.1 – 1.5	1	3	1	1	6	22
	1.6 – 2.5	-	2	-	1	3	11
	2.6 – 3.0	-	-	-	-	-	-
	3.1 – 4.5	2	-	-	-	2	7
Refrigerator	Yes	4	7	1	6	18	67
	No	4	-	5	-	9	33
Microwave oven	Yes	-	-	-	1	1	4
	No	8	7	6	5	26	96
Motorbike	2 or more	1	2	1	3	7	26
	1	6	4	4	3	17	63
	No	1	1	1	-	3	11
Car	2 or more	-	-	-	-	-	-
	1	1	4	1	2	8	30
	No	7	3	5	4	19	70
Credit card	Yes	-	-	-	-	-	-
	No	8	7	6	6	27	100
Public transport	Yes	2	1	4	3	10	37
	No	6	6	2	3	17	63

Appendix G: Sample validation of consumer survey

1. Gender

In this research, the majority of respondents were females (98.5%). According to BPS Kota Pekanbaru (2012), in 2013, the population of Pekanbaru was projected to reach 1,013,064 residents, of which 516,110 (51%) were females and 496,954 (49%) were males. The large number of female respondents participating in this study reflects the role that women continue to play as the main food shoppers for the household. The role of women in food shopping has also been revealed in previous research. Wahida *et al.* (2013), for example, reported in their study of food purchasing behaviour in urban households in Java that 90% of the respondents were female. Arsil (2013) reported in another study of food consumers in urban and rural areas in Java and Sumatra that 93% of the respondents were female. According to ACNielsen (2005), 90% of the principal food shoppers in Indonesian households are female, which is similar with the Philippines and Thailand.

2. Age

According to the statistical information available on Riau Province (BPS Kota Pekanbaru 2012), 32% of the female population are in the age group of 15-24 years. Table G.1 shows that the age of respondents in this study closely reflects these statistics in Pekanbaru City, where about 30% were from the 18-24 years old age group. Indonesia's population is relatively young, with over 60% under the age of 34 years old (Euromonitor International 2009c, Agriculture and Agri-food Canada 2011). In this study, approximately 55% of the respondents were from the age group of 18-34 years old.

Table G.1: Age of survey respondents, compared to the female population in Pekanbaru City 2011

Age group	Female population in Pekanbaru [a]	%	Age group	This study	%
15-24	103,946	31.7	18-24	233	28.8
25-34	92,554	28.2	25-34	208	25.7
35-44	64,845	19.8	35-44	193	23.8
45-54	38,148	11.6	45-54	128	15.8
55-64	17,000	5.2	55-64	36	4.4
65 and above	11,641	3.5	65 and above	12	1.5
Total	328,134	100.0	Total	394	100.0

[a] Source: (BPS Kota Pekanbaru 2012)

3. Marital status

According to Arsil (2013), the national average data for marital status is not available in Indonesia. However, in her survey encompassing several major cities in Indonesia, 86% of the respondents were married. In this study, the majority of respondents (67%) were married. This is related to the typical household type in Indonesia, which is dominated by married couples with and without children (52%), other family types (30%), and single person households (16%) (Arsil 2013).

4. Religion

In the 2000 National Census, five official religions were recognised: Islam, Christian (Catholic and Protestant), Hindu and Buddhist. 'Other' referred to those who did not follow these five official religions (Suryadinata, Arifin and Ananta 2003). Recent data for 2010 (Indexmundi 2014) shows that the composition has not changed much, i.e., Muslim (87%), Christian (10%), Hindu (2%), and Buddhist (1%).

The composition of respondents' religions in this study was representative of that in both National and Riau Province statistics, with a Muslim majority of 90%, 8% Christian, and 2% other religions (Table G.2).

Table G.2: Religion of respondents compared to National and Riau Province Statistics

Religion of respondents	n	%	National religious percentage 2000*	Riau religious percentage 2000*
Islam	714	89.59	88.22	88.63
Catholicism	18	2.26	8.92	6.76
Protestantism	48	6.02		
Buddhism	12	1.51	0.84	4.18
Hinduism	4	0.50	1.81	0.19
Others	1	0.13	0.20	0.24
Total	797	100.00	100.00	100.00

*Source: (Suryadinata, Arifin and Ananta 2003)

5. Education

In 2010, the majority of the population in Pekanbaru City (calculated for those aged 10 and above) had completed senior high school (40%), while 20% had completed junior high school and 15% had completed primary school (BPS Kota Pekanbaru 2012). Table G.3 shows educational attainment according to the statistics of Pekanbaru City as compared to the data found in this study.

Table G.3: Education of respondents compared to Statistics of Pekanbaru City

Highest level of education completed	Total		Statistics of Pekanbaru City for population of 10 years old and older[a]
	n	%	
Did not complete primary school	14	1.7	15.3
Primary school	67	8.3	25.0
Junior high school	107	13.2	25.0
Senior high school	411	50.7	27.8
Diploma	50	6.2	2.7
Graduate and postgraduate	161	19.9	3.9
Total	810	100.0	100.0

[a] Source: BPS Kota Pekanbaru (2012)

Compared to the official statistics of Pekanbaru City, this study had a much higher percentage of respondents who had completed senior high school and attained university and diploma degrees. In this study, a larger proportion of young females (18-24 years old) were interviewed in the hypermarkets (39%). This is probably related to a desire among the younger generation to visit shopping malls. According to research in Yogyakarta (Erwin 2009), shopping centres are becoming identity icons for young Indonesian females. The largest mall (Plaza Ambarrukmo) targets young consumers by positioning their mall as a new lifestyle centre. Similarly in Malaysia, Yue-Teng, Osman and Yin-Fah (2011) identified students as a key target for shopping malls, even suggesting that shopping malls should be located in close proximity to universities.

In Java, for the sample drawn by Wahida *et al.* (2013), respondents had on average attained 10.5 years of education, which is equivalent to completing a high school education. Similarly, Arsil (2013) found that more than one third of respondents had attained a high school education (35%), which was higher than national statistics.

In 1994, Indonesia launched a nine-year compulsory education program: six years of primary school and three years of junior high school. In 2013, the Education and Culture Ministry launched the 12-year compulsory education program (Natahadibrata 2013). According to the national data cited by (Arsil 2013), high school graduates comprise only 22% of the Indonesian population.

6. Occupation

In this study, most of the respondents (30%) identified themselves as self-employed (own business). Arsil (2013) reported that self-employed individuals (entrepreneurs) accounted for 22% of her survey respondents. However, according to the national statistics cited by Arsil (2013), some 19% of Indonesians were entrepreneurs and 20% were unpaid labourers.

According to Chikweche and Fletcher (2010), in developing countries self-employment is associated with low erratic income, which is due to the informal nature of the jobs and inconsistent demand for services and products. According to Asra (2000), after the Asian economic crisis, about 20 million people in Indonesia lost their jobs and entered the informal sector.

About 15% of the respondents and 30% of the respondents' spouses (husbands) were reported in this study to work for the government or as private employees. Arsil (2013) reported that most of her respondents (55%) worked in their family business. According to national statistics cited by Arsil (2013), the majority of Indonesians worked as an employee (30%), with some 17% working in family businesses.

7. Ethnicity

Indonesia has more than 1,000 ethnic and sub-ethnic groups, but the two major ethnic groups are Javanese (42%) and Sundanese (15%). Other important ethnic groups are Malay, Madurese, Batak and Minangkabau, with about 3% each (Suryadinata, Arifin and Ananta 2003).

According to the Central Intelligence Agency (CIA) (2010, cited in Agriculture and Agri-food Canada 2011), Javanese represent 40.6% of the population, followed by Sundanese (15%), Madurese (3.3%), Minangkabau (2.7%), Betawi (2.4%), Bugis (2.4%), Banten (2%), and Banjar (1.7%). Other minority ethnic groups form the remaining one third of the Indonesian population, including the economically influential Chinese-Indonesian minority (1%).

Table G.4 compares the ethnicity of respondents in this study with National and Riau Province statistics. The majority of respondents were Malay (38%), followed by a quarter of Javanese. Minangkabau and Bataknese, other ethnic groups in Sumatra, comprised 11% and 7% of the respondents, respectively. Approximately 19% of the respondents were from other small ethnic groups.

Table G.4: Ethnicity of respondents compared to National and Riau Province Statistics

Ethnicity of respondents	**This study**		**National ethnic groups 2000 (%)***	**Riau Province ethnic groups 2000 (%)***
	n	%		
Malay	161	21.0	3.5	37.7
Javanese	141	18.4	41.7	25.1
Minangkabau	319	41.5	2.7	11.3
Bataknese	107	13.9	3.0	7.3
Other	40	5.2	49.1	18.6
Total	768	100.0	100.0	100.0

*Source: (Suryadinata, Arifin and Ananta 2003)

According to Ananta, Arifin and Bakhtiar (2005), most of the third-largest ethnic group (Malay) live on the island of Sumatra, especially in the province of Riau and surrounding provinces (Jambi, South Sumatra, and Bangka-Belitung). Similarly, there were more people of Bataknese ethnicity in this study, and less Javanese, due to the location of the survey.

8. Family size

The average number of people per household in Pekanbaru City was four by the end of 2011 (BPS Kota Pekanbaru 2012). Arsil (2013) concluded that the majority of Indonesian households consisted of 3-4 people (41%) and 5-6 people (38%). Similarly, the Food and Agriculture Organization (FAO) (2009) reported that in a survey of urban areas in Java (Yogyakarta and Jakarta and their surrounding cities), the average household consisted of 4.5 people.

Consistent with the statistics above, the majority of respondents in this study had family sizes of three people (23%), four people (24%), and five people (19%). According to Euromonitor International (2009c, cited in Agriculture and Agri-food Canada 2011), family and social relationships are very important in Indonesian culture. As such, households in Indonesia are relatively large, i.e., 40% of the households of respondents in this study had more than five occupants.

9. Suburbs

The main suburbs from which the respondents were drawn from for this study were related, in part, to the location of the wet markets and hypermarkets. Most respondents in this study were from Tampan (29%), which contains 20% of the households in Pekanbaru City. A further 18% of the respondents came from Marpoyan Damai, which had the second highest number of households (14%) in Pekanbaru City (BPS Kota Pekanbaru 2011).

10. Refrigerator ownership

Seventy-three percent of the respondents in this study owned a refrigerator. This is much higher than previous study results (AAFC 2010, cited in Agriculture and Agri-food Canada 2011), which found that only 30% of urban Indonesian residents owned a refrigerator.

In Jakarta (and Java Island in general), refrigerator ownership is higher than the national average. Smith and Dawson (2004) found that 43% of households in Jakarta had a refrigerator. Kato and Ota (2010) found that the vast majority of their Jakarta respondents owned a refrigerator. Salim (2008) found that 88% of Jakarta-based respondents owned a refrigerator, with the FAO (2009) also reporting that 80% of respondents in Yogyakarta and Jakarta owned a refrigerator.

11. Microwave oven ownership

In this study, 30% of the respondents owned a microwave oven. Kato and Ota (2010) found that about 25% of consumers in Jakarta owned a microwave oven. According to Smith and Dawson (2004), the proportion of households owning a microwave oven has increased compared with previous years.

12. Motorbike ownership

Most respondents in this study owned a motorbike, which was not surprising. According to Badan Pusat Statistik Indonesia (2013, cited in Belgiawan, Schmöcker & Fujii 2014), Indonesians owned around 6 million motorcycles in 1987, 10 million in 1995, and 80 million by 2011. If the figure for 2011 is divided by the approximate size of the Indonesian population of 244 million (World Bank 2015), the percentage of motorbike ownership in Indonesia is 33%.

In this study, the percentage of motorbike ownership was much higher, with 85% of respondents having at least one motorbike in the household. With higher household income in urban areas, the level of motorbike ownership would be expected to be higher than the national average. The FAO (2009) reported that in urban areas of Yogyakarta and Jakarta, 87% of respondents owned a motorbike. The Indonesian 2012 Demographic and Health Survey (IDHS), which was conducted in both urban and rural areas all over Indonesia (Indonesia Minister of Health 2013), identified that two-thirds of households had a motorbike.

13. Car ownership

In addition to motorbike ownership, car numbers in Indonesia are also increasing. According to Badan Pusat Statistik Indonesia (2013, cited in Belgiawan, Schmöcker & Fujii 2014), there were around 1 million cars in Indonesia in 1987, but by the end of 2011, there were already 10 million cars. If this number is divided by the approximate size of the Indonesia population of 244 million (World Bank 2015), the percentage of car ownership is 4%.

Similar to this, other researchers have found that Indonesia is still characterised by a low per capita car ownership ratio, which is between 4% (Indonesia Investments 2014) and 7% (Credit Suisse 2015).

In this study, the percentage of respondents owning cars was higher (30%) because the survey was only undertaken in an urban area (Pekanbaru City). The Nielsen Global Survey

of Automotive Demand (Lubis 2014) found that 46% of Indonesian households did not own a car.

14. Credit card ownership

According to (Wahida *et al.* 2013), only 17% of consumers in Java had a credit card. Bellman (2013) reported that Indonesia had a credit card penetration rate of less than 15%, compared to more than 25% for Malaysia and Singapore. However, Salim (2008) found that more respondents in urban cities, such as Jakarta, had at least one credit card (63%). It is important to note, however, that the majority of those respondents were of Chinese (39%) and Javanese (32%) descent. On average, only 16% of the respondents in this study had a credit card, which is consistent with the national credit card ownership rate (15%).

15. Monthly household income

The monthly household income for Indonesian consumers in Java is between IDR 2 to 5 million (Wahida *et al.* 2013). Arsil (2013) found that the majority of Indonesian households (57%) had a monthly family income of IDR 2 million per month or less, with 29% having an average monthly income of IDR 2 to 4 million per month. The national average household income was IDR 1.34 million per month. FAO (2009) reported that consumers in urban areas of Java (Yogyakarta, Jakarta, Bogor, Depok, Tangerang, and Bekasi) had an average household income of IDR 2,647,000 per month.

The majority of households in this study (about 60%) had a monthly family income between IDR 1 and 4.5 million: IDR 2,001,000 to 3,000,000 (22%), IDR 1,001,000 to 2,000,000 (19%), and IDR 3,001,000 to 4,500,000 (17%).

16. Monthly food expenditure

In rural areas, about 60% of the average household income in Indonesia is spent on food, with the percentage falling to around 40% in urban areas (Agriculture and Agri-food Canada 2011). In Riau Province, the average monthly expenditure on food was about 50% of total consumer expenditure. According to BPS (2008), the average per capita monthly expenditure in 2007 in Riau Province was IDR 492,000, with IDR 242,000 being spent on food. In 2012, Rangkuti and Wright (2013) found that the national monthly average expenditure per capita on food was IDR 323,478. This was equivalent to 51% of the total monthly expenditure per capita.

In this study, approximately half (48%) of the respondents spent more than IDR 1,500,000 per month on food, and the other half (52%) spent IDR 1,500,000 per month or less on food. In 2007, the statistics for food expenditure in Riau Province indicated that this was IDR 242,000 per capita per month. As the average household size in Riau is 4 people, it was estimated that monthly food expenditure for households in Riau Province at the time of the survey (January to February 2013) was more than IDR 1,000,000 per month, which was close to the range of food expenditure for the survey respondents.

Appendix H: Cluster comparison

CHARACTERISTICS	CLUSTER 1	CLUSTER 2	CLUSTER 3
Mean scores for 19 store-related attributes which were sig different	Scored medium for most criteria which were mostly associated with modern retailers, low for 3 social relationship criteria	Scored lowest for most criteria except know the seller, meet neighbours/friends & can support small traders	Scored highest for all 19 criteria
Shopping habits and food expenditure			
Types of products purchased from WM	Dry food 9% Fruit 35% Veg 82% Chicken/fish 70% Frozen food 2% Detergent 7% Clothing 14%	Dry food 30% Fruit 51% Veg 88% Chicken/fish 77% Frozen food 4% Detergent 26% Clothing 27%	Dry food 12% Fruit 54% Veg 90% Chicken/fish 83% Frozen food 4% Detergent 26% Clothing 34%
Types of products purchased from HM	Dry food 54% Fruit 35% Veg 13% Chicken/fish 5% Frozen food 20% Detergent 50% Clothing 22%	Dry food 36% Fruit 22% Veg 2% Chicken/fish 1% Frozen food 7% Detergent 33% Clothing 17%	Dry food 48% Fruit 27% Veg 7% Chicken/fish 6% Frozen food 21% Detergent 47% Clothing 18%
Survey location	WM 33% HM 67%	WM 72% HM 28%	WM 51% HM 49%
Survey Time	Morning 29% Afternoon 59% **Evening 11%**	**Morning 42%** Afternoon 52% Evening 5%	Morning 26% Afternoon 63% **Evening 11%**
The most important food retailer	WM 51% **HM 20%** SM 11% *Warungs* 8% MM 6%	**WM 70%** ***Warungs* 12%** HM 5% SM 4% MM 4%	**WM 65%** HM 17% *Warungs* 6% IG 4% SM 4%

Appendix H: Cluster comparison cont

Monthly food expenditure in each food retailer	**CLUSTER 1**	**CLUSTER 2**	**CLUSTER 3**
Wet market	819,801[a]	**1,081,328[b]**	951,526[ab]
Supermarket	**387,705[b]**	226,052[a]	328,743[ab]
Hypermarket	**571,465[b]**	370,289[a]	491,470[ab]
Minimarket	**286,923[a]**	206,532[a]	203,180[a]
Temporary market	**250,259[a]**	162,413[a]	207,204[a]
Warung	254,593[a]	**307,821[a]**	274,335[a]
Independent grocer	374,610[a]	373,939[a]	**813,166[a]**
Hawker	131,269[a]	93,181[a]	**133,666[a]**
Roadside kiosk	89,518[a]	**133,478[a]**	73,953[a]
Shopping frequency	**CLUSTER 1**	**CLUSTER 2**	**CLUSTER 3**
Shopping frequency at WM	**Weekly 41%** 2-3 times a week 19% Everyday 13% Never 13%	**Everyday 34%** **Weekly 25%** 2-3 times a week 22%	**Weekly 32%** **Everyday 29%** 2-3 times a week 18%
Shopping frequency at TM	Never 63% Seldom 15% Weekly 12%	Never 75% Weekly 12% Seldom 9%	Never 76% Seldom 9% Weekly 7%
Shopping frequency at *warung*	2-3 times a week 27% Never 26% Everyday 24% Seldom 18%	**Everyday 35%** Never 27% 2-3 times a week 22% Seldom 10%	Never 43% Everyday 22% 2-3 times a week 16% Seldom 14%
Shopping frequency at MM	Never 40% Seldom 18% **Monthly 13%**	Never 54% Seldom 22% Monthly 7%	Never 64% Seldom 15% Monthly 7%
Shopping frequency at SM	Never 23% **Monthly 20%** **Weekly 19%** Seldom 17%	Never 57% Seldom 15% Monthly 8% 2-3 times a month 8%	Never 47% Seldom 15% Monthly 13% 2-3 times a month 11%

Appendix H: Cluster comparison cont

Shopping frequency and transport	**CLUSTER 1**	**CLUSTER 2**	**CLUSTER 3**
Shopping frequency at HM	**Monthly 27%** Never 23% Seldom 16% 2-3 times a month 13%	Never 47% Seldom 25% Monthly 12%	Never 37% **Monthly 19%** Seldom 19% Weekly 9%
Combining visit to WM & HM	Combining 22% Not 78%	Combining 29% Not 71%	Combining 16% **Not 84%**
Transport to WM	**Motorbike 72%** Public transport 11% **Car 10%**	Motorbike 52% **Walking 28%** **Public transport 17%** Car 4%	**Motorbike 62%** Walking 16% Public transport 15% Car 8%
Transport to HM	Motorbike 59% Car 29% Public transport 7%	Motorbike 49% Public transport 26% Car 14% Walking 11%	Motorbike 57% Car 25% Public transport 13%
Socio-demographic criteria			
Age group	**18-24: 39%** 25-34: 21% 35-44: 21% 45-54: 14%	25-34: 23% 35-44: 23% **45-54: 21%** 18-24: 19%	**25-34: 31%** **35-44: 28%** 18-24: 21% 45-54: 16%
Education level	**Senior high 58%** Grad & postgrad 25% Diploma 7% Junior high 6%	Senior high 46% Junior high 19% Primary School 18% **Grad & postgrad 10%**	Senior high 48% Grad & postgrad 22% Junior high 14% Primary school 8%
Car ownership	Car 35%	Car 19%	Car 31%
Credit card ownership	Credit card 15%	Credit card 6%	Credit card 22%
Monthly household income	IDR 1,001,000-2,000,000 23% IDR 4,501,000-6,000,000 19% IDR 2,001,000-3,000,000 17%	IDR 2,001,000-3,000,000 29% IDR 1,001,000-2,000,000 19% IDR 3,001,000-4,500,000 14%	IDR 2,001,000-3,000,000 22% IDR 3,001,000-4,500,000 20% IDR 1,001,000-2,000,000 16%

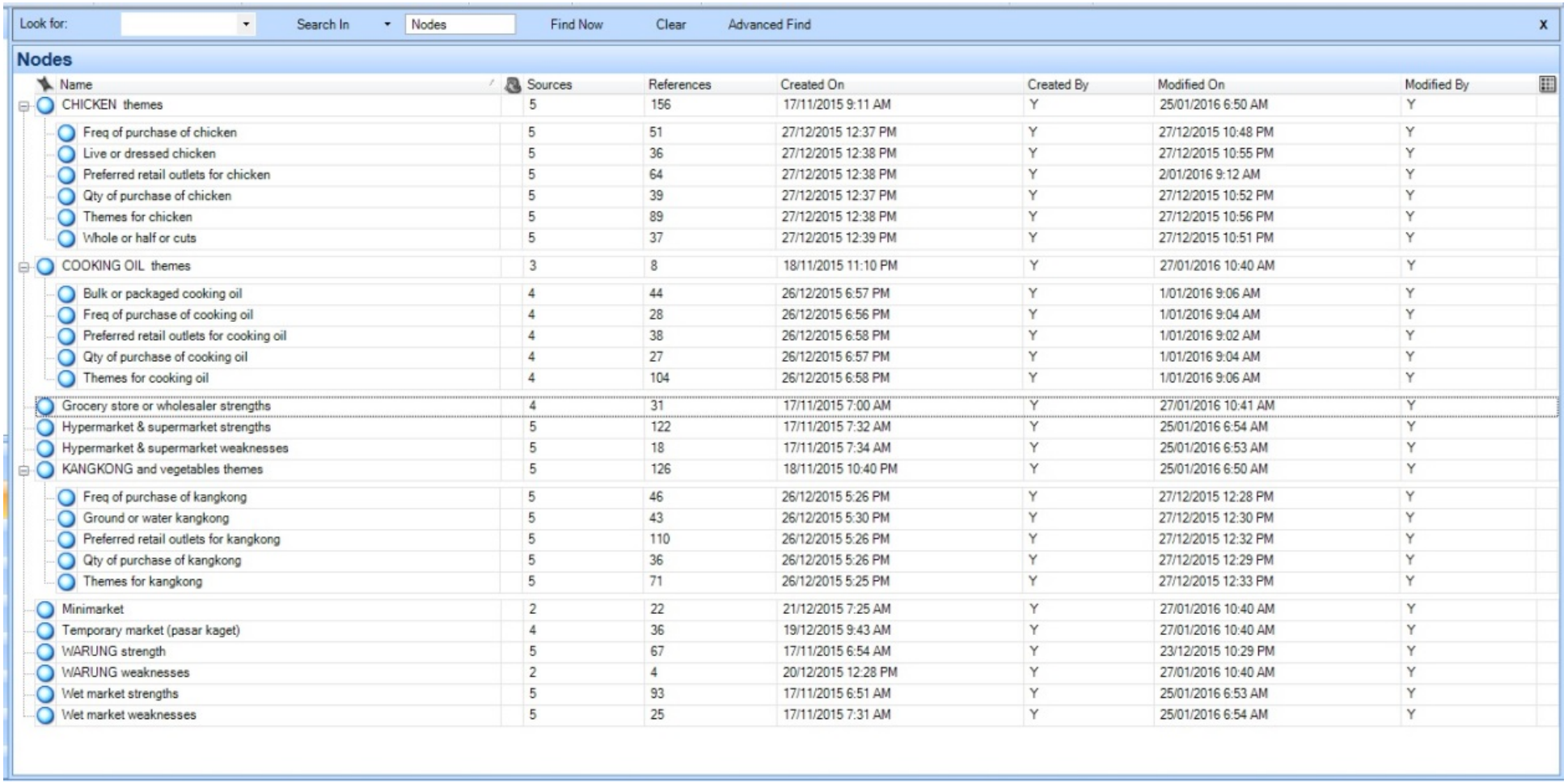
Appendix H: Cluster comparison cont

Socio-demographic criteria	**CLUSTER 1**	**CLUSTER 2**	**CLUSTER 3**
Frequency of income	**Monthly 81%** Irregular 17% Weekly 2%	Monthly 56% **Irregular 41%** Weekly 3%	**Monthly 73%** Irregular 24% Weekly 3%
Monthly household food expenditure	>IDR 1,500,000 45% IDR 501,000-1,000,000 28% IDR 251,000-500,000 14% IDR 1,001,000-1,500,000 13%	>IDR 1,500,000 42% IDR 501,000-1,000,000 26% IDR 1,001,000-1,500,000 19%	**>IDR 1,500,000 56%** IDR 501,000-1,000,000 20% IDR 1,001,000-1,500,000 16%
Mean score for each of 5 constructs identified for food in general	**CLUSTER 1**	**CLUSTER 2**	**CLUSTER 3**
	Mostly medium means except for social relationship which was the lowest and food quality and safety which was similar to Cluster 2	Lowest means for all factors except social relationship which was medium	Significantly higher means for all five factors
Factor 1 modern retailer characteristics: Brand variety Product variety Special price (discount) Shopping points Shopping convenience	Very important	Least importance	Important
Factor 2 efficient shopping: Quick payment/check-out Product lay-out in store Easy parking Service Can self-select	Most important	Most important	Most important

Appendix H: Cluster comparison cont

	CLUSTER 1	CLUSTER 2	CLUSTER 3
Factor 3 social relationship: Know the seller personally Meet neighbours/ friends Support small traders	Little importance	Highly valued	Important
Factor 4 food quality and safety: Honesty of the seller Food safety	Most important	Most important	Most important
Factor 5 competitive price: Competitive price	Very important	Less important	Important

Appendix I: Nvivo nodes



Look for: Search In Nodes Find Now Clear Advanced Find

Nodes

Name	Sources	References	Created On	Created By	Modified On	Modified By
CHICKEN themes	5	156	17/11/2015 9:11 AM	Y	25/01/2016 6:50 AM	Y
Freq of purchase of chicken	5	51	27/12/2015 12:37 PM	Y	27/12/2015 10:48 PM	Y
Live or dressed chicken	5	36	27/12/2015 12:38 PM	Y	27/12/2015 10:55 PM	Y
Preferred retail outlets for chicken	5	64	27/12/2015 12:38 PM	Y	2/01/2016 9:12 AM	Y
Qty of purchase of chicken	5	39	27/12/2015 12:37 PM	Y	27/12/2015 10:52 PM	Y
Themes for chicken	5	89	27/12/2015 12:38 PM	Y	27/12/2015 10:56 PM	Y
Whole or half or cuts	5	37	27/12/2015 12:39 PM	Y	27/12/2015 10:51 PM	Y
COOKING OIL themes	3	8	18/11/2015 11:10 PM	Y	27/01/2016 10:40 AM	Y
Bulk or packaged cooking oil	4	44	26/12/2015 6:57 PM	Y	1/01/2016 9:06 AM	Y
Freq of purchase of cooking oil	4	28	26/12/2015 6:56 PM	Y	1/01/2016 9:04 AM	Y
Preferred retail outlets for cooking oil	4	38	26/12/2015 6:58 PM	Y	1/01/2016 9:02 AM	Y
Qty of purchase of cooking oil	4	27	26/12/2015 6:57 PM	Y	1/01/2016 9:04 AM	Y
Themes for cooking oil	4	104	26/12/2015 6:58 PM	Y	1/01/2016 9:06 AM	Y
Grocery store or wholesaler strengths	4	31	17/11/2015 7:00 AM	Y	27/01/2016 10:41 AM	Y
Hypermarket & supermarket strengths	5	122	17/11/2015 7:32 AM	Y	25/01/2016 6:54 AM	Y
Hypermarket & supermarket weaknesses	5	18	17/11/2015 7:34 AM	Y	25/01/2016 6:53 AM	Y
KANGKONG and vegetables themes	5	126	18/11/2015 10:40 PM	Y	25/01/2016 6:50 AM	Y
Freq of purchase of kangkong	5	46	26/12/2015 5:26 PM	Y	27/12/2015 12:28 PM	Y
Ground or water kangkong	5	43	26/12/2015 5:30 PM	Y	27/12/2015 12:30 PM	Y
Preferred retail outlets for kangkong	5	110	26/12/2015 5:26 PM	Y	27/12/2015 12:32 PM	Y
Qty of purchase of kangkong	5	36	26/12/2015 5:26 PM	Y	27/12/2015 12:29 PM	Y
Themes for kangkong	5	71	26/12/2015 5:25 PM	Y	27/12/2015 12:33 PM	Y
Minimarket	2	22	21/12/2015 7:25 AM	Y	27/01/2016 10:40 AM	Y
Temporary market (pasar kaget)	4	36	19/12/2015 9:43 AM	Y	27/01/2016 10:40 AM	Y
WARUNG strength	5	67	17/11/2015 6:54 AM	Y	23/12/2015 10:29 PM	Y
WARUNG weaknesses	2	4	20/12/2015 12:28 PM	Y	27/01/2016 10:40 AM	Y
Wet market strengths	5	93	17/11/2015 6:51 AM	Y	25/01/2016 6:53 AM	Y
Wet market weaknesses	5	25	17/11/2015 7:31 AM	Y	25/01/2016 6:54 AM	Y

Appendix J: Questionnaire for the consumer survey

Good morning/afternoon

Let me introduce myself, I am a student conducting a study on consumer shopping habit for food and daily kitchen needs.

May I ask some of your time to answer some research questions about 30 minutes?

YES Proceed
NO Thank the respondent

Are you the person who is responsible to shop for food / cooking need for your family?

YES Proceed
NO Thank the respondent

Do you regularly buy cooking oil, raw chicken and kangkong?
YES Proceed
NO Thank the respondent

Before I start, you can be assured that all your answers will be kept in the strictest confidence and used for research purposes only.

Your identity will not be identified individually from the data we collect.

Your participation in this research is completely voluntary and you may withdraw at any time.

Survey location	:		Code of respondent	:	
Date	:		Time interview starts	:	
Name of enumerator	:		Time interview ends	:	

A. GENERAL SHOPPING HABIT

The first part is about your general shopping habit

No	Questions	traditional / wet market	temporary / half-day market / *pasar kaget*	minimarket	supermarket	hypermarket	*warung* (small neighbourhood store)	*tukang sayur keliling* (vegetable hawker)	Grocery (*grosir*)/ Chinese shop/ (*toko kelontong)*	Road-side stall
1	Do you shop in these places?	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No
2	If yes, how often do you shop in each place?	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom
3	What kind of goods do you buy from each place? (circle all that apply)	1. dry food 2. fruit 3. vegetable 4. chicken/ fish 5. frozen foods 6. detergent 7. clothing	1. dry food 2. fruit 3. vegetable 4. chicken/ fish 5. frozen food 6. detergent 7. clothing	1. dry food 2. fruit 3. vegetable 4. chicken/ fish 5. frozen food 6. detergent 7. clothing	1. dry food 2. fruit 3. vegetable 4. chicken/ fish 5. frozen food 6. detergent 7. clothing	1. dry food 2. fruit 3. vegetable 4. chicken/ fish 5. frozen food 6. detergent 7. clothing	1. dry food 2. fruit 3. vegetable 4. chicken/ fish 5. frozen food 6. detergent 7. clothing	1. dry food 2. fruit 3. vegetable 4. chicken/ fish 5. frozen food 6. detergent 7. clothing	1. dry food 2. fruit 3. vegetable 4. chicken/ fish 5. frozen food 6. detergent 7. clothing	1. dry food 2. fruit 3. vegetable 4. chicken/ fish 5. frozen food 6. detergent 7. clothing
4	What is your mode of transport for each place you visit?	1. walking 2. bike 3. motorbike 4. car 5. public transport	1. walking 2. bike 3. motorbike 4. car 5. public transport	1. walking 2. bike 3. motorbike 4. car 5. public transport	1. walking 2. bike 3. motorbike 4. car 5. public transport	1. walking 2. bike 3. motorbike 4. car 5. public transport	1. walking 2. bike 3. motorbike 4. car 5. public transport		1. walking 2. bike 3. motorbike 4. car 5. public transport	1. walking 2. bike 3. motorbike 4. car 5. public transport

Now I would like to ask you questions about FOOD ONLY

Food here includes ANY FOOD CONSUMED AT HOME (rice, breakfast, lunch, dinner, cooked dishes to eat at home, raw ingredients for cooking, snacks, and milk for children)

No	**Questions**	traditional / wet market	temporary / half-day market / pasar kaget	minimarket	supermarket	hypermarket	*warung* (small neighbourhood store)	*tukang sayur keliling* (vegetable hawker)	Grocery (*grosir*)/ Chinese shop/ bigger shop (*toko kelontong*)	Road-side stall
5	For FOOD, how much money do you spend in each place you visit **(Rp / month)**?									

6	(Check HIGHEST amount from answer for question 5) So you spend MOST of your money to buy food in ..... (mention the name). Why do you spend THE MOST for food there? (write all answers)	1. ..... 2. ..... 3. ..... 4. ..... 5. ..... 6. .....
7	(Check SECOND HIGHEST amount from answer for question 5). Your SECOND MOST IMPORTANT place to buy food is ..... (mention the name). Why do you also buy food there? (write all answers)	1. ..... 2. ..... 3. ..... 4. ..... 5. ..... 6. .....
8	Do you go to wet market AND hypermarket/supermarket at the same time?	1. Yes 2. No
9	What is the reason for your answer for Question 8?	....

Now I will ask about factors which influence you in choosing a place to buy food

On a scale of 1 to 6 with 1 being not at all important and 6 being very important (SHOW SCALE CARD), how important are EACH of the following factors ..... when choosing a PLACE to buy FOOD?		Not at all importantt					Very important	don' t know / not applicable
1	competitive price	1	2	3	4	5	6	
2	shopping points / membership program	1	2	3	4	5	6	
3	special price or discount	1	2	3	4	5	6	
4	can bargain on price	1	2	3	4	5	6	
5	shopping convenience	1	2	3	4	5	6	
6	I can self-select with my hands	1	2	3	4	5	6	
7	close store location / easy access	1	2	3	4	5	6	
8	opening hours	1	2	3	4	5	6	
9	easy parking/ parking facility	1	2	3	4	5	6	
10	quick payment / check out	1	2	3	4	5	6	
11	product lay-out in store	1	2	3	4	5	6	
12	service	1	2	3	4	5	6	
13	credit facility	1	2	3	4	5	6	
14	ability to buy in small quantity	1	2	3	4	5	6	
15	product variety / product choices	1	2	3	4	5	6	
16	brand variety / brand choices	1	2	3	4	5	6	
17	friendliness of seller	1	2	3	4	5	6	
18	know the seller personally	1	2	3	4	5	6	
19	meet neighbours / friends	1	2	3	4	5	6	
20	can support small traders	1	2	3	4	5	6	
21	relaxing / looking around with family / friends	1	2	3	4	5	6	
22	can buy other things (one-stop shopping) such as clothing, toys, etc	1	2	3	4	5	6	
23	eating places / restaurants	1	2	3	4	5	6	
24	there is a prayer room facility	1	2	3	4	5	6	
25	there is a special event / meeting a celebrity	1	2	3	4	5	6	
26	cleanliness of the store	1	2	3	4	5	6	
27	attractiveness of store	1	2	3	4	5	6	
28	comfortable / cool environment / air conditioned	1	2	3	4	5	6	
29	home delivery	1	2	3	4	5	6	
30	wide range of price level available (cheap to expensive prices)	1	2	3	4	5	6	

On a scale of 1 to 6 with 1 being not at all important and 6 being very important (SHOW SCALE CARD), how important are EACH of the following factors ..... when choosing a PLACE to buy FOOD?		Not at all importantt					Very important	don' t know / not applicable
31	clear price tag	1	2	3	4	5	6	
32	value for money (suitable prices)	1	2	3	4	5	6	
33	return/ refund policy	1	2	3	4	5	6	
34	information from advertising / catalogue	1	2	3	4	5	6	
35	refrigerator / cold room facility	1	2	3	4	5	6	
36	sample of product availability	1	2	3	4	5	6	
37	free to browse with no obligation to buy	1	2	3	4	5	6	
38	safety	1	2	3	4	5	6	
39	honesty / goodwill of the seller	1	2	3	4	5	6	
40	suits my family habit	1	2	3	4	5	6	

The next questions are about 3 food products: cooking oil, kangkong and chicken.

B. COOKING OIL

No	Questions	MOST IMPORTANT PLACE	SECOND most important place	Additional place (if any)
1	Where do you buy COOKING OIL? (ask for the most important, second important and additional place to buy)	. .....	.....	.....
2	How often do you buy cooking oil from each shopping place?	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom
3	Why do you buy your cooking oil there?			
4	Which one do you buy most often?	1. bulk 2. packaged 3. other please mention if any	1. bulk 2. packaged 3. other please mention if any	1. bulk 2. packaged 3. other please mention if any .....
5	Why do you buy that kind of cooking oil most often?			
6	What variety of cooking oil do you buy most often? (For example: palm oil, sun flower oil, peanut oil, olive oil, etc.)			
7	How much cooking oil do you buy in ONE PURCHASE from each place?			
8	What is the price do you pay in each place? (Rp/liter)			
9	If you buy branded cooking oil, what brand? (multiple answers possible)			
10	Why do you choose that brand(s)?			

C. KANGKONG

No	Questions	MOST IMPORTANT PLACE	SECOND most important place	Additional place (if any)
1	Where do you buy FRESH KANGKONG? (ask for the most important, second important and additional place to buy)			
2	How often do you buy kangkong from each shopping place?	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom
3	Why do you buy your kangkong there?			
4	What type of kangkong do you MOSTLY buy there ?	1. water kangkong 2. ground /rooted kangkong	1. water kangkong 2. ground/rooted kangkong	1. water kangkong 2. ground/rooted kangkong
5	Why do you buy that type of kangkong most often?			
6	Which one do you buy?	1. tied kangkong 2. loose kangkong	1. tied kangkong 2. loose kangkong	1. tied kangkong 2. loose kangkong
7	How much kangkong do you buy in one purchase from each place?			
8	How much is the price of kangkong there?			

D. RAW CHICKEN MEAT (BROILER CHICKEN)

No	Questions	MOST IMPORTANT PLACE	SECOND most important place	Additional place (if any)
1	Where do you buy RAW CHICKEN MEAT? (ask for the most important, second important and additional place to buy)			
2	How often do you buy raw chicken meat from each shopping place?	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom	1. everyday 2. 2-3 times a week 3. once a week 4. 2-3 times a month 5. once a month 6. seldom
3	Why do you buy your raw chicken meat there?			
4	What is the unit of purchase for the chicken you buy there?	1. whole chicken 2. half chicken 3. specific portions	1. whole chicken 2. half chicken 3. specific portions	1. whole chicken 2. half chicken 3. specific portions
5	What is the reason for your answer for question number 4?			
6	If you buy whole chicken (check answer for no 4), which one do you choose?	1. live chicken to be slaughtered on the spot 2. previously slaughtered chicken	1. live chicken to be slaughtered on the spot 2. previously slaughtered chicken	1. live chicken to be slaughtered on the spot 2. previously slaughtered chicken
7	What is the reason for your answer for question number 6?			
8	How much chicken (kg) do you buy in one purchase from each place?			
9	How much is the price of the chicken there (Rp / kg)			

E. **DETERMINANTS OF CHOICES FOR SHOPPING LOCATION**

The following questions are about PRODUCT-related criteria

On a scale of 1 to 6 with 1 being not at all important and 6 being very important (SHOW SCALE CARD), how important are EACH of the following factors..... when choosing a PLACE to buy the following products:	COOKING OIL							RAW CHICKEN MEAT							FRESH KANGKONG						
	Not at all important					Very important	Don't know / not applic-able	Not at all important					Very important	Don't know / not applic-able	Not at all important					Very important	Don't know / not applic-able
brand	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
product cleanliness	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
halal status	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
product appearance/ attractiveness	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
packaging	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
expiry date is clear	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
product is safe to be consumed	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
healthy	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
nutritious	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
smell	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
country of origin is clear	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
freshness	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
purity	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
taste/flavour	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
colour	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	

The following questions are about STORE-related criteria

On a scale of 1 to 6 with 1 being not at all important and 6 being very important (SHOW SCALE CARD), how important are EACH of the following factors..... when choosing a PLACE to buy the following products:	COOKING OIL							RAW CHICKEN MEAT							FRESH KANGKONG						
	Not at all important					Very important	Don't know / not applic-able	Not at all important					Very important	Don't know / not applic-able	Not at all important					Very important	Don't know / not applic-able
competitive price	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
shopping points / membership program	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
special price or discount	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
opportunity to bargain on price	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
shopping convenience	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
I can self-select	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
close store location / easy access	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
opening hours	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
easy parking/ parking facility	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
quick check out	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
product lay-out in store	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
service	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
credit facility	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
ability to buy in small quantity	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
product variety / product choices	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
brand variety / brand choices	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
friendliness of seller	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
personally known the seller	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
meet neighbours / friends	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
can support small traders	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	

On a scale of 1 to 6 with 1 being not at all important and 6 being very important (SHOW SCALE CARD), how important are EACH of the following factors.....when choosing a PLACE to buy the following products:	COOKING OIL							RAW CHICKEN MEAT							FRESH KANGKONG						
	Not at all important					Very important	Don't know / not applic-able	Not at all important					Very important	Don't know / not applic-able	Not at all important					Very important	Don't know / not applic-able
relaxing / looking around with family / friends	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
can buy other things (one-stop shopping) such as clothing, toys, etc	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
eating places / restaurants	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
there is a prayer room facility	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
there is a special event / meeting a celebrity	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
cleanliness of the store	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
attractiveness of store	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
comfortable / cool environment / air conditioned	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
home delivery	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
wide range of price level available (cheap to expensive prices)	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
clear price tag	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
value for money (suitable prices)	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
return/ refund policy	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
information from advertising / catalogue	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
refrigerator / cold room facility	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
sample of product is available	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
free to look around with no obligation to buy	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
safety	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
honesty / goodwill of the seller	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	
suits my family habit	1	2	3	4	5	6		1	2	3	4	5	6		1	2	3	4	5	6	

F. SOCIO-DEMOGRAPHIC

The last part is about your background

1	Gender	1. Female	2. Male	
2	May I know your age group?	1. 18 – 24 years 2. 25 – 34 years	3. 35 – 44 years 4. 45 – 54 years	5. 55 – 64 years 6. 65 years or above
3	Are you married?	1. single	2. married	3. divorced / separated / widow / widower
4	What is the highest level of education you have completed?	1. did not complete primary school 2. primary school	3. junior high school 4. senior high school 5. diploma	6. graduate (Strata 1) 7. postgraduate (Strata 2 and 3)
5	What is your occupation?	1. student 2. housewife 3. pensioner	4. fully-employed (government) 5. fully employed (private companies) 6. under-employed / part time	7. unemployed / looking for work 8. self-employed (own business) 9. other please mention: .....
6	What is your spouse's occupation (if married)	1. student 2. housewife 3. pensioner	4. fully-employed (government) 5. fully employed (private companies) 6. under-employed / part time	7. unemployed / looking for work 8. self-employed (own business) 9. other please mention: .....
7	To what ethnic group do you belong?			
8	What ethnic group is your spouse (if married)?			
9	What is your religion?	1. Islam 2. Catholic	3. Protestant 4. Budha	5. Hindu 6. Other: .....
10	How many people live in your house now?	..... people		
11	From people living in your house, how many: a. immediate family member (husband-wife-children)? b. your parents / relatives / extended family c. other people such as servant, baby sitter, etc.	 ..... people ..... people ..... people		
12	How many children who still live with you now (if any)? a. less than 5 years old b. between 6 – 12 years old c. between 13 – 17 years old d. 18 years old and above	 ..... children ..... children ..... children ..... children		
13	In which suburb (*kecamatan*) do you live?	1. Tampan 2. Bukit Raya 3. Lima Puluh 4. Sail	5. Pekanbaru Kota 6. Sukajadi 7. Senapelan 8. Rumbai	9. Marpoyan Damai 10. Payung Sekaki 11. Rumbai Pesisir 12. Tenayan Raya	13. Other please mention .....

14	Who does the cooking in your household?	1. myself 2. servant 3. myself AND servant 4. other please mention :		
15	Do you have fridge at home?	1. Yes 2. No		
16	Do you have microwave oven?	1. Yes 2. No		
17	Do you have motorbike?	1. Yes (How many .....) 2. No		
18	Do you have car?	1. Yes (How many: .....) 2. No		
19	On average, how much would you spend in a month on food for your household? (TOTAL including rice, breakfast, lunch, dinner, cooked dishes, cooking ingredients, eating out, snacks, and children milk)	Rp .....PER MONTH.		
20	From your monthly food spending mentioned above (answer for question number 19), how much money do you spend on: a. daily raw ingredients (to be cooked at home) b. convenience food (such as canned fish, corned beef, chicken nuggets, sausages, frozen vegetables) c. cooked (ready to eat) food eaten at home d. eating out	Rp .....PER MONTH Rp .....PER MONTH Rp .....PER MONTH Rp .....PER MONTH		
21	Do you have a credit card?	1. Yes 2. No		
22	May I know the approximate MONTHLY income for your household (husband and wife)?	1. less than Rp 500,000 2. Rp 500,001 – 1,000,000 3. Rp 1,000,001 – 2,000,000	4. Rp 2,000,001 – 3,000,000 5. Rp 3,000,001 – 4,500,000 6. Rp 4,500,001 – 6,000,000	7. Rp 6,000,001 – 9,000,000 8. more than Rp 9,000,000
23	How does your family receive the main income / salary?	1. weekly	2. monthly	3. irregular time

Thank you for your time

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